PANDEMIC INFLUENZA PLAN

MICHIGAN DEPARTMENT OF COMMUNITY HEALTH 2005

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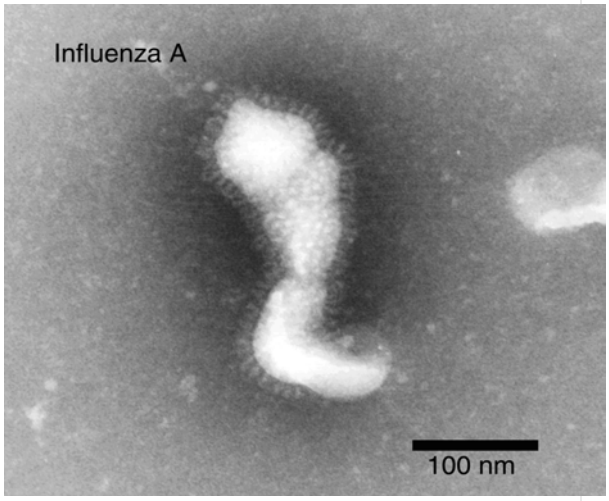

Image from MDCH Bureau of Laboratories

****NOTE****

- The Michigan Department of Community Health (MDCH) Pandemic Influenza Plan is not a stand-alone plan; rather, it is one appendix to a comprehensive All-Hazards Response Plan (AHRP) for the MDCH. References to the Communicable Disease (CD) Annex (which contains plans referent to all communicable diseases) and the All Hazards (AH) Plan may be noted within the Pandemic Influenza Plan.

- The AHRP currently contains four Annexes: Communicable Diseases (Biological), Chemical Terrorism and Emergencies, Radiological/Nuclear, and Natural Disasters.

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Executive Summary

The "Spanish Flu" [A (H1N1)] pandemic of 1918-1919 was the worst natural disaster of the 20th century. By the time it ended, the Spanish Flu had killed 20-50 million people, more than the death toll caused by World War I. The second pandemic of the 20th century, the "Asian flu" [A (H2N2)] was identified in China in late February 1957, taking only a few months to spread and reach the United States where it caused approximately 70,000 deaths. The third and most recent pandemic was detected in early 1968 in Hong Kong [A (H3N2)]. It killed approximately 34,000 people in the United States.

The current World Health Organization (WHO) criteria for a pandemic is the confirmation that disease is causing multiple outbreaks in one country and is spreading to other countries, with a consistent disease pattern which indicates serious morbidity and mortality for at least one segment of the population. Although details are unpredictable, many experts agree that the next influenza pandemic is inevitable and could have devastating consequences. The Centers for Disease Control and Prevention (CDC) estimates that in the United States alone, up to 90 million persons may be infected, between 314,000 and 733,000 persons may be hospitalized, and between 89,000 and 207,000 persons might die (see **Table 1)**. **Table 2** has estimates for Michigan derived with Flu-Aid 2.0 software at the MDCH in 2004; the underlying assumptions used are different than those used for Table 1 and the estimates do not necessarily correlate. Of note, the Michigan population is estimated to be approximately ten million in the 2000 census. In addition to illness and loss of life, it is estimated that the United States could experience economic losses ranging from about $71 billion to about $166 billion, depending on the attack rate and disease severity.

Table 1. Estimated maximum morbidity and mortality during an influenza pandemic*, U.S.

	United States
Clinically Ill	63-90 million
Require Outpatient Care	18-42 million
Hospitalizations	314,000-734,000
Deaths	89,000-207,000

***U.S. figures from: Meltzer MI, Cox NJ, Fukuda K. 1999b. Modeling the economic impact of pandemic influenza in the United States: Implications for setting priorities for intervention. Background paper: available on the Web at: http://www.cdc.gov/ncidod/eid/vol5no5/melt_back.htm**

Table 2. Estimated maximum morbidity and mortality during an influenza pandemic*, Michigan (*Michigan figures developed with Flu-Aid 2.0 software, CDC)

	Michigan
Clinically Ill	3.4 million
Require Outpatient Care	2 million
Hospitalizations	51,000
Deaths	15,000

Michigan's Pandemic Influenza Plan will provide response guidelines to an influenza pandemic. Although the plan cannot eliminate the disease, it will reduce the impact by enabling state and local agencies to anticipate, prepare, and respond efficiently to the disease. The plan details necessary activities at the state and local level considerations. Activities include command and management, crisis communications, surveillance, laboratory guidelines, community containment, infection control in health care facilities, vaccines and antivirals/medical management, data management border/travel issues, and recovery. As the phase of the pandemic will dictate specific responses, each of these activities is categorized by phase. The WHO and the CDC have identified phases of influenza pandemics in detail. To ease planning and response strategies, these phases have been merged into pre-pandemic, pandemic, and post-pandemic phases for Michigan planning.

PHASES OF A PANDEMIC:

- For purposes of consistency, comparability and coordination of the national, state and local response, identification and declaration of the following "phases" will be done at the international (World Health Organization, or WHO) and national (CDC) levels.

- For the purposes of the MDCH Pandemic Influenza Plan 2005, the phases are combined into Pre-Pandemic, Pandemic, and Post-Pandemic sections.

- **Table 3** (Table 1 in the 2005 WHO Plan) on the following page illustrates the MDCH organization of Pandemic Phases in conjunction with the 1999 and 2005 WHO classifications.

Description of MDCH Pandemic Influenza Phases

Pre-Pandemic Phase: A novel virus, somewhere in the world, has been detected in humans and the human population is not immune. The novel strain has been found in a small number of people or demonstrates sustained person-to-person transmission causing multiple cases in the same geographic area. This phase may last from days to years.

Pandemic Phase: The novel virus causes unusually high rates of morbidity or mortality; multiple continents are affected; the World Health Organization (WHO) and CDC declare an influenza pandemic is underway. This phase may last from several months to over a year.

Post-Pandemic Phase: The number of deaths from and cases of influenza returns to normal. The WHO and CDC declare the pandemic to be over.

Table 3: (Table 1 from WHO) Downloaded April 24, 2005:
http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/

Table 1 **Comparison of phases published by WHO in 1999 and those in the present document**

PHASES AS PUBLISHED BY WHO IN 1999	NEW PANDEMIC PHASES	ADDITIONAL NATIONAL SUBDIVISIONS OF NEW PHASES
Interpandemic period **Phase 0**	**Interpandemic period** **Phase 1**. No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk[a] of human infection or disease is considered to be low.	
	Phase 2. No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk[a] of human disease.	Affected or extensive travel/trade links with affected country.
		Not affected.
Phase 0. Preparedness level 1: human case.	**Pandemic alert period** **Phase 3**. Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.	Affected or extensive travel/trade links with affected country.
		Not affected.
Phase 0. Preparedness level 2: limited human transmission.	**Phase 4**. Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.[b]	Affected or extensive travel/trade links with affected country.
		Not affected.
Phase 0. Preparedness level 3: spread in general population.	**Phase 5**. Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).[b]	Affected or extensive travel/trade links with affected country.
		Not affected.
Pandemic period **Phase 1**. Multiple countries.	**Pandemic period** **Phase 6**. Pandemic phase: increased and sustained transmission in general population.[b]	Not yet affected.
Phase 2. Multiple regions.		Affected or extensive travel/trade links with affected country.
Phase 3. Subsiding in initially affected countries but not in other countries.		Subsided.
Phase 4. Next wave.		Next wave.
Postpandemic period **Phase 5**. Return to phase 0.	**Postpandemic period** Return to interpandemic period.	Return to interpandemic period.

[a] The distinction between *phase 1* and *phase 2* is based on the risk of human infection or disease resulting from circulating strains in animals. The distinction would be based on various factors and their relative importance according to current scientific knowledge. Factors may include: pathogenicity in animals and humans; occurrence in domesticated animals and livestock or only in wildlife; whether the virus is enzootic or epizootic, geographically localized or widespread; other information from the viral genome; and/or other scientific information.

[b] The distinction between *phase 3*, *phase 4* and *phase 5* is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include: rate of transmission; geographical location and spread; severity of illness; presence of genes from human strains (if derived from an animal strain); other information from the viral genome; and/or other scientific information.

MDCH Plan Phases

Pre-pandemic

Pandemic

Post-pandemic

FEDERAL RESPONSIBILITIES

The federal government has primary responsibility for many key elements of the national plan (draft available at http://www.hhs.gov/nvpo/pandemicplan/), including nationwide coordination of the pandemic influenza response. Specific areas of coordination include the following:

- Surveillance in the U.S. and globally.
- Epidemiological investigation in the U.S. and globally.
- Development and use of diagnostic laboratory tests and reagents.
- Development of reference strains and reagents for vaccines.
- Vaccine evaluation and licensure.
- Determination of populations at highest risk and strategies for vaccination and antiviral use.
- Assessment of measures to decrease transmission (such as travel restrictions, isolation, and quarantine).
- Deployment of federally purchased vaccine.
- Deployment of antiviral agents in the Strategic National Stockpile (SNS).
- Evaluation of the efficacy of response measures.
- Evaluation of vaccine safety.
- Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service officers.
- Medical and public health communications.

State public health (MDCH) responsibilities and local health department considerations are delineated as needed in each of the sections throughout the plan.

Situation and Assumptions

Overall Assumptions:

- Most parts of the country will be involved simultaneously with pandemic influenza response, so diversion of resources from other locations will likely not be an option.
- Plan coordination is essential. One of the greatest difficulties in devising a pandemic plan is clarifying the roles and responsibilities of individuals, departments, and organizations.
- "Local Considerations" are included in the MDCH Pandemic Influenza Plan since most emergency response is local, and MDCH provides an advisory role/function to local health departments within the State of Michigan.
- Much is unknown about the epidemiology of potential pandemic influenza strains. Plans must allow for flexibility in pandemic influenza response.
- The Pandemic Influenza Plan and other components of the AHRP will be updated as more information becomes available. Exercises will be particularly valuable in refining the plan.

I. Command and Management

- The purpose of the Command and Management module is to provide the over-all National Incident Management System (NIMS)- based response for the management of agency activities during public health emergencies. Because these NIMS-based activities are similar for most Public Health emergencies, this information is in the Base component of this All Hazards (AH) Plan (see **AH-I**).
- Command and Management activities will differ depending upon the phase of influenza.
- In the event of pandemic influenza, response activities will be coordinated as outlined in the AH plan Communicable Disease (CD) Annex.

***NOTE:**
The "**Executive Committee**" (see All-Hazards Introduction [**AH-Intro**]) refers to the leadership of MDCH and its divisions that will be involved in the decision-making regarding MDCH actions during a Public Health Emergency. This group can include the following: MDCH State Health Officer/Director, the Chief Medical Executive, the Deputy State Health Officer, Public Health Administrator, the Public Information Officer (PIO), the Surgeon General, the Director of the OPHP, the State Epidemiologist, and the State Public Health Laboratory Director. Other members may be designated as part of this team as needed.

II. Crisis Communication

During a pandemic response, health communications will be a prominent tool used to assist in containing the outbreak. Sharing of timely and accurate information can guide the public, the media, and health care providers in responding appropriately and complying with exposure-control measures.

The Communication sections has these goals:

- Provide accurate, consistent and comprehensive information to the general public through the media and other information outlets.
- Instill and maintain public confidence in the nation's and state's public health system, and in its ability to respond to and manage a pandemic response.
- Contribute to the maintenance of order, minimization of public panic and fear.
- Address rumors, inaccuracies, and misperceptions as quickly as possible, and prevent stigmatization of affected groups.
- Assist the first jurisdiction(s) with possible or confirmed cases of pandemic influenza with the anticipated deluge of media attention.

III. Surveillance

- This module provides information regarding surveillance for influenza in pre-pandemic and pandemic phases.
- Surveillance for influenza is an ongoing responsibility of the Communicable Disease and Immunization Divisions, which are within the Bureau of Epidemiology (BOE) at MDCH. Local Health Departments (LHDs) enter influenza data into the Michigan Disease Surveillance System (MDSS).
- Ongoing awareness of international, national and state influenza activity, as well as intermittent testing to identify active strains of influenza virus, will allow MDCH to be alerted to the introduction of a possible pandemic strain within the state.
- Intensive active surveillance will be initiated for outbreak management and control of a possible pandemic strain when outbreaks or new strains occur.

IV. Laboratory Guidelines

- This module provides influenza-specific laboratory information and plans utilized by the Bureau of Laboratories (BOL) at MDCH. These plans are utilized during seasonal influenza activity, including epidemics, and include plans for an influenza pandemic.

V. Community Containment

- This module provides recommendations for the containment of infection at the community level. Because measures such as Isolation and Quarantine apply to other communicable diseases other than pandemic influenza, information for this module is available in the Communicable Disease Annex (**CD-V**).
- Community containment measures may be effective at limiting the severity and longevity of an influenza pandemic. Refer to **CD-V** for information regarding isolation, quarantine, and emergency orders.
- The feasibility of such measures such as quarantine may be curtailed depending upon the epidemiology of the pandemic strain; for instance, short incubation periods of 24-72 hours as seen in typical human influenza strains may make quarantine difficult to implement.

VI. Infection Control in Health Care Facilities

- The number of cases presenting for care will overwhelm hospitals and other care facilities.
- The purpose of this module is to provide MDCH recommendations regarding various infection control functions for health care facilities. MDCH may be consulted to assist in development of infection prevention and control practices of health care facilities.
- **Facilities are responsible for establishing their own policies and protocols.**
- The MDCH may provide consultation in collaboration with local health departments, regarding infection control measures to health care facilities during infectious disease outbreaks (see **CD- VI)**.
- Each health care facility should carefully review their existing policies for applicability and possible modification to fit the specific issues associated with the pandemic strain of influenza.
- Pandemic influenza will probably spread by the same routes as other influenza strains (i.e., droplet, direct contact, and possibly airborne.)
- When a pandemic is possible or developing, facilities may begin to implement disaster response plans that may include a review of services provided.

VII. Vaccines and Antivirals (Medical Management)

- This module contains recommendations for the use of vaccines and antivirals during seasonal influenza activity, epidemics, and pandemics.
- Vaccines will be unavailable in the first months of a pandemic. The use of antivirals and community control efforts will need to be emphasized initially. However, antivirals will be in short supply and restrictions on their use will be necessary.
- Where vaccines or antivirals are available, mass clinics may be used to distribute them.

VIII. Data Management

- The Data Management module explains sources, procedures for collection, and rules for maintaining influenza data. Because data management issues are similar for influenza and other communicable diseases, much of the information for this module is available in the Communicable Disease Annex (**CD-VIII**).
- Data management for influenza refers to data collected at wither the population or individual level during pre-pandemic, pandemic and post-pandemic phases.
- These data includes sentinel physician and sentinel lab data, syndromic surveillance, and outbreak data throughout Michigan, and individual case reports.

IX. International/Border Travel

- This module contains information about implementing disease control measures involving an international, state, or tribal border.
- Recommendations regarding travel will differ depending upon the phase of the pandemic and its epidemiology.
- The control of international border travel during disease outbreaks is a federal responsibility, involving the Department of Homeland Security, Customs and Border Patrol, and CDC's Division of Global Migration and Quarantine.
- MDCH will disseminate information regarding travel warnings and advisories to other state agencies, and will assist federal agencies with border issues.
- MDCH will work directly with public agencies in bordering states and Canadian provinces.

X. Recovery/Consequence Management

- Consequence management for influenza refers to those activities that should be considered by local, regional, state and federal agencies as communities attempt to return to pre-event status following pandemic phases of influenza.
- Any recovery issues not previously addressed in the Post-Pandemic Sections
- **I-IX** will be addressed in this module **(X)**.

Legal Authorities

Below are any cited legal authorities by module. The comprehensive discussion of legal authority and the Michigan Public Health Code can be found in **AH-Intro.** The legal authorities as they pertain to communicable disease are also outlined in **CD-Intro.**

I. Command and Management

- Mechanisms are in place to amend legal authorities/reporting requirements as needed during a public health emergency.

II. Crisis Communications

III. Surveillance

- Under Michigan Public Health Code, the communicable disease rules are promulgated under the authority conferred on the Department of Community Health by section 5111 of Act No. 368 of the Public Acts of 1978, as amended, being 333.5111 of the Michigan Compiled Laws.
- Physicians and laboratories are required to report communicable diseases as outlined in the Communicable Disease Rules (**CD-III**).
- Health care professionals and facilities will be required to comply with enhanced emergency reporting rules that would be enacted during a pandemic.

IV. Laboratory Guidelines

- The Michigan Public Health Code contains language establishing a State Public Health Laboratory.

V. Community Containment

- The Michigan Public Health Act of 1978 explicitly addresses the legal authority of the state of Michigan to enforce isolation, quarantine, and emergency orders. Refer to the Communicable Disease Annex, Community Containment Module **(CD-V)** for more information.

VI. Infection Control in Health care Facilities

- Healthcare professionals and facilities will be required to comply with enhanced emergency reporting rules that would be enacted during a pandemic. Facilities are currently required to report aggregate weekly counts to LHD's.
- Mechanisms should be in place to provide the following enhanced surveillance:
    - All laboratories may be required to report individual lab confirmed cases to the local health department (LHD) within 24 hours of diagnosis.
    - Healthcare facilities and long-term care facilities may be directed to report daily numbers of cases to the local health department.
- Understand the applicability/impact of the Emergency Medical Treatment and Labor Act (EMTALA) rules (which prohibits the refusal to treat patients based on their ability to pay) during an influenza pandemic.

VII. Vaccines and Antivirals (Medical Management)

- Public Act 390 allows for the re-distribution of vaccine, antivirals and the supplies to administer the agents in the public and private sector if the Governor declares a public health emergency and/or the MDCH Director executes a Notice of Imminent Danger. The CDC provides national guidance in these instances. (see **PF- VII** and **Attachment 6)**.

- MDCH is developing a tracking system for influenza vaccine and antiviral medications that would link with the Michigan Childhood Immunization Registry (MCIR). Scan forms will be used for MCIR data entry (**Attachment 12**). Tracking activities include:
    - Establishment of legal authority via Public Act 390 to use the MCIR as the designated tracking system.
    - The tracking system can include:
        - Persons who receive a 1st dose of vaccine
        - Recall capability to ensure receipt of a second dose of vaccine, if needed
        - Ability to record administration of antivirals
        - Adverse events following vaccination or administration of antivirals
        - Inventory control
        - Informed consent of persons who may receive unlicensed products

- The legal authority needed to administer vaccines in a declared emergency is defined in the 1976 Public Act 390 in rule 30.411, section 11 (1) (c), (2), and (6).

VIII. Data Management

- For the collection of public health data, the MDCH is a non-covered entity under the Health Insurance Portability and Accountability Act (HIPAA) guidelines.

IX. International Border Travel Issues

- Refer to **AH-IX** Border/Travel Issues

X. Recovery/ Consequence Management

Pre-Pandemic Phase Activities

MDCH Pandemic Influenza Plan

I. Command and Management: Pre-Pandemic Phase

State Level Responsibilities **Lead: OPHP**

- For pre-pandemic issues, refer to the Communicable Disease Annex for Command Management issues specific to CD. (**CD-I,** Command and Management).
- Administrative and organizational leadership during a Public Health emergency are addressed in **AH-I.**
- The Preliminary Assessment Team (also see State Health Operations Center (**SHOC) Manual**) is a group made up of representatives from the Executive Committee and the specialists needed to assist in decision-making regarding Pandemic Influenza. The purpose of this team is to determine whether an incident requires a public health response and/or SHOC activation. In the pre-pandemic phase, influenza activity may develop to a level when convening this team will be necessary. This team works under the umbrella of the Operations Section Chief; if the SHOC is activated the following assessment may occur:
    - A summary of reporting results.
    - Enumeration of human health consequences
    - Conclusions about etiology.
    - Estimates of the size of population thought to be at risk.
    - Communication and consultation with LHDs
    - and health care providers on medical and epidemiologic issues.
    - Communication and consultation with the CDC as needed, including requests for assistance.
    - Communication with the MDCH public information officer (PIO) on SHOC activation.

Local Health Department Considerations **Lead: Local Health Departments**

(See Local Response Plans)

II. Crisis Communication: Pre-Pandemic Phase

State Level Responsibilities **Lead: OPHP**

State level responsibilities for influenza communications during the pre-pandemic phase include the following:

Preparedness Activities

- Development of prepared public health messages and responses to anticipated FAQs. These can be quickly adapted depending upon the specifics of the outbreak/pandemic episode.

Responses

- MDCH shall inform the media of a novel virus alert.
- During the pre-pandemic phase, MDCH communications personnel consults with the MDCH Executive Committee to take communication actions in response to a pandemic influenza outbreak. Key messages shall be collaboratively used to generate an appropriate response to pandemic influenza. All communications shall emanate from this central point.
- The following key pre-pandemic messages are examples for consideration:
    - Effects of a pandemic influenza can be limited by rapid, appropriate public health action that includes surveillance, identification and isolation of influenza cases, infection control, and intense tracing and tracking of contacts. These measures can be a temporary inconvenience to those involved but are essential for containing outbreaks of pandemic influenza.
    - MDCH is preparing for a possible reappearance of pandemic influenza by: 1) educating health care workers about pandemic influenza and disease diagnosis, 2) enhancing surveillance systems to determine if and where influenza strains with pandemic potential have emerged.
    - MDCH is committed to preserving the health and safety of all Michigan residents and pandemic influenza preparedness is an important component of our state preparedness planning.
- During the pre-pandemic period, MDCH shall prepare and disseminate messages (see **AH-II**) to encourage vigilance for the possible appearance of pandemic influenza and to specify activities to help control its spread (see **AH-II**).
- MDCH maintains a library of pandemic influenza-related educational materials for local health department and hospital PIOs throughout Michigan. (**Attachment 5**)
- MDCH will maintain, develop and post special influenza materials to the MDCH influenza homepage at www.michigan.gov/influenza, and to the Michigan Health Alert Network (MIHAN). Local partners and the media shall be referred to the influenza website to help manage information requests. MDCH shall encourage key state associations to post and link influenza materials to their web sites (see **AH-II)**.
- MDCH shall record messages about influenza or novel virus activity on MDCH emergency hotlines and make those numbers available to specific audiences.

- MDCH shall also utilize the CDC Public Response Service to respond to public inquiries. This information will also be disseminated to LHDs, and LHDs will receive the contact/hotline numbers.
- The MDCH PIO shall identify and train the pandemic influenza subject matter spokesperson and back up spokesperson.
- If a pandemic alert is issued, the initial press briefing shall include answers to the following anticipated questions:

    - How is the influenza virus transmitted?
    - What are the symptoms of this pandemic strain of influenza? Note especially the difference between influenza and 'stomach flu'.
    - How is a pandemic different from the annual influenza season?
    - Are there dangers or side effects with the vaccine?
    - Why is there a vaccine "shortage" at the beginning of an influenza pandemic?
    - In light of vaccine and antiviral shortages, what specific priority groups will be vaccinated/treated first?
    - Where can I get the vaccine?
    - How can the public best protect itself during the early months of a pandemic before adequate vaccine is available?
    - Does the public still need to be vaccinated after the first wave of pandemic cases seems to be over?

Local Health Department Considerations

- Local communications personnel will need to develop procedures for addressing demands for media information. This may include requesting MDCH or CDC communications assistance.
- In the pre-pandemic phase, the range and type of educational materials will be increased. Messages should include the expected influenza activity due to the new strain of virus, the existence of state and local plans for dealing with increased influenza activity and the actions the public can take to better protect themselves from influenza.
- Coordinate pandemic influenza medical management guidelines with health care professionals and their practices. Disseminate educational curricula and materials for local hospitals, and other health care providers.
- Identify population subgroups, if any, which are likely to be disproportionately affected by pandemics and design materials appropriate for these subgroups. Use local Crisis and Emergency Risk Communication (CERC) plan contact lists to disseminate information to special populations and prepare messages for those groups. MDCH will assist in providing templates.
- Contact interpreters to help communicate to non-English speaking groups. Prepare and disseminate translated materials. MDCH will assist in providing templates.

III. Surveillance: Pre-Pandemic

State Level Responsibilities **Lead: BOE**

State level responsibilities for influenza surveillance during the pre-pandemic phase include:

- Participate in and implement plans to enhance national influenza surveillance systems coordinated by the CDC (see **Attachment 1** for details) which include the following:
    - The U.S. Influenza Sentinel Providers Surveillance Network (SPSN) is administered by CDC. It provides a central repository of information on patient visits for influenza-like illness (ILI), with virologic testing results on a subset of patients. MDCH BOE analyzes state and local data and the CDC analyzes regional and national data. About 75 health care providers are currently part of this system in Michigan.
    - 122 U.S. Cities Mortality Reporting–data from three Michigan cities (Lansing, Grand Rapids, Detroit) are included in this CDC system. Deaths due to pneumonia or influenza are among the data reported.
    - WHO/CDC National Respiratory and Enteric Virus Surveillance System (NREVSS) Collaborating Laboratories–the virology section of the MDCH laboratories and the U of M medical center laboratory represent Michigan in this system.
    - Laboratory aspects of surveillance are discussed in more detail in section IV (Laboratory Guidelines) of this plan.
    - State and territorial epidemiologist Weekly Report–an assessment of each state's influenza activity is reported each week to CDC during the months of October-May.
- Integrate and maintain a statewide surveillance/reporting system for tracking influenza-related morbidity in Michigan.
    - Expand capability for health care facilities, providers and long term care facilities to use the MDSS (web-based reporting system) during pandemic alert and early stages of a pandemic to permit early detection of unusual influenza activity.
    - Identify and establish surveillance contacts in neighboring states (Ohio, Indiana, Illinois, and Wisconsin) and Canada (currently in progress). With CDC, prepare strategies to prevent spread of infection to the U.S. from affected areas (see PF-VIII).
    - Determine capacity and develop plans with the Michigan Department of Agriculture (MDA), US Department of Agriculture (USDA), Michigan State University, the University of Michigan Influenza Research and Surveillance Program, veterinarians, poultry researchers, etc., to monitor clinically consistent clusters of illness compatible with equine, avian and swine influenza. (Currently in progress) Include the newly formed Michigan Emergency Veterinary Network (Vet Net) (Attachment 2) in planning activities.
    - Utilize systems for expeditiously tracking influenza-related mortality in Michigan:

- Communicate with the State Vital Registrar office to ensure timely and accurate counting of deaths attributable to influenza and pneumonia.
- In cooperation with the Michigan Medical Examiners Association, obtain timely information on influenza, pneumonia or other respiratory infection related causes of death.

Surveillance Systems

Diagnosis- based Surveillance

- Physician and aggregate school-based reports are entered into the MDSS within seven days, as required under Michigan Communicable Disease Rules (see CD-III).
- Laboratory-based reporting of confirmed influenza cases within three days as required under Michigan Communicable Disease Rules.
- Immediate reporting of suspected and/or confirmed influenza outbreaks in long-term care facilities, schools, hospitals, and other institutional or congregate settings as required under Michigan Communicable Disease Rules.
- Sentinel reporting (**Attachment 1**) of Influenza-like illness (ILI) through the voluntary SPSN within Michigan.

Syndrome-based Surveillance

- School-based reporting of student absenteeism due to flu-like illness each week that school is in session.
- The Michigan Syndromic Surveillance System pilot project involves emergency department–based reporting around the state (see **AH-III**).
- Syndromic Surveillance also utilizes the Realtime Outbreak Disease Surveillance (RODS) National Retail Data Monitor (NRDM) (http://rods.health.pitt.edu/) which tracks day-old pharmaceutical purchasing data and is an extremely timely data source.

Surveillance Activities

- Continually monitor the level of participation in the SPSN, to ensure at least one regularly reporting provider per 250,000 population; if not, recruit additional providers in defined geographic regions so that this minimum is reached. Report to LHDs Medical Directors four times per year (beginning, middle, and end of influenza season, as well as mid-summer) on the status of the sentinel provider surveillance system. Request assistance of LHDs in recruiting additional sentinel sites and encouraging existing sites to report.
- Carry out surveillance activities on a year-round basis where possible, per CDC guidelines. Continually analyze data and periodically disseminate the results.
- Compile seasonal and periodic influenza status reports to LHDs; in addition include state level professional organizations, such as the Michigan Chapter of the College of Emergency Physicians, the MSIC/APIC, MSMS, MSOA, MIDS and clinical laboratories about influenza activity in the country or region.
- Maintain demographic statistics on Michigan groups at high risk for influenza or influenza-related deaths.

- Conduct surveillance for pediatric influenza-associated deaths according to CDC protocols.
- Investigate capacity for improvements and expansions to current influenza surveillance methods, such as:
    - Developing protocols for Emergency Department and Urgent Care Facility surveillance for influenza (i.e. Rapid-Antigen Testing and reporting mechanisms).
    - Identifying additional sources of syndromic surveillance data.
    - Applying GIS methodologies, especially in the event of novel virus activity in Michigan or pandemic flu occurrence.
- Maintain regular communication with the University of Michigan influenza nursing home project to monitor current activity and strains of influenza identified through the project.

Active Surveillance

- Use of an investigation form for persons presenting during a novel virus alert with an ILI and recent travel to/from an area that has been determined by the CDC as being affected by the novel virus. This form is under development. This form will be updated with input from the CDC.
- Work with LHDs to investigate cases of influenza or ILI with unusual characteristics or suspicion of a novel viral strain.
- Activate enhanced statewide surveillance to detect potential importation and/or local spread in Michigan.
- Utilize the physician listserv, Michigan Biodefense Alert Listserv (MBAL), which is a surveillance tool for clinicians.
- Surveillance of severe respiratory illness and unexplained deaths at local hospitals.
- Surveillance of persons traveling from geographic areas in which the novel strains have been isolated. (CDC Updated Guidelines, Enhanced Surveillance, February 4, 2005**:** http://www.cdc.gov/flu/avian/professional/han020405.htm)

Laboratory Surveillance (see **PF-IV**)

Local Health Department Considerations

Current LHD responsibilities for influenza surveillance during the pre-pandemic phase include:

- Work with MDCH to recruit clinicians into the SPSN in Michigan, and encourage increased reporting by participating clinicians (**Attachment 1**).
- Identify disease reporting agencies within the jurisdiction, along with addresses, fax numbers, and the name of a contact person.
- Verify systems for monitoring local hospital census data.
- Verify systems for timely monitoring of local death rates.
- Review the level of influenza-like illness (ILI) reporting from schools and assure that these facilities are reporting on a regular basis as required by law. Further, review reporting from institutions of higher learning where a significant number of foreign students may be attending.

- Review and refine system for monitoring ILI in other congregate facilities that accommodate children such as camps and daycares. Assure that these facilities are aware of reporting duties under the Michigan Communicable Disease Rules.
- Provide notification and updates to disease reporters (physicians, hospitals, emergency rooms, clinical laboratories, long-term care facilities), local emergency management directors, EMS, local law enforcement agencies, and local, private and public partners within the LHD jurisdiction. Advise them of protocols for increased surveillance of influenza.
- Distribute MDCH provided specimen collection and submission kits to appropriate providers. Coordinate collection of additional clinical specimens for influenza surveillance according to protocols disseminated by MDCH.
- Investigate suspect cases of novel influenza virus in coordination with MDCH.
- In the event of a novel virus alert and/or pandemic alert, review local pandemic influenza response plans.

Health Care Facility Surveillance (Also see **PF-VI)**

- Re-establish or verify the presence of surveillance system with long-term care facilities and establish a mechanism to contact the LHD in the event of a cluster of ILI and to collect specimens for viral isolation.
- All health care facilities and providers maintain responsibility to adopt current surveillance and reporting mechanisms based on the activity within their facility as well as within their local jurisdiction.
- Health care facilities should seek assistance if needed from their ICPs and/or LHDs Communicable Disease personnel.

IV. Laboratory Guidelines: Pre-Pandemic Phase

State Level Responsibilities **Lead: BOL**

- Annually, the Virology Section Manager will confirm and document the location of all clinical laboratories in the state which have the capability to isolate and sub-type influenza viruses and arrange for submission of influenza virus isolates.
- The BOL will maintain routine seasonal influenza testing (November through April) of specimens submitted by sentinel influenza sites enrolled under the US Influenza Sentinel Provider Surveillance Network (SPSN). This system is augmented with year-round passive surveillance activities maintaining sentinel sites at a standby level.
- The Virology Section at BOL can isolate, type, and subtype Influenza A & B viruses. The Molecular Biology Section can perform polymerase chain reaction (PCR) from clinical specimens and subtype influenza viruses by PCR at capacity levels sufficient to meet the demand during a normal influenza season.
- BOL will provide respiratory virus testing for outbreak and cluster investigations.
- BOL will develop guidance for clinical specimen selection during a novel virus alert as in **Attachment 3.**
- BOL will clearly define appropriate specimen collection and transport guidelines as described in **Attachment 4.**
- BOL will periodically send representative virus isolates to CDC for further antigenic characterization. It will also immediately send any unusual virus isolates to CDC for further studies including antiviral resistance.
- BOL will increase testing capacity for influenza viruses, including pandemic strain(s), in specimens obtained from travelers from affected areas and other targeted surveillance populations as need arises.

Local Health Department Considerations

- Encourage clinical laboratories in their jurisdiction to submit influenza virus isolates and specimens as requested by MDCH.
- Assist as necessary with specimen collection, storage, and transit to the MDCH laboratories.

V. Community Containment: Pre-Pandemic

State Level Responsibilities **Lead: BOE**

- Refer to the Communicable Disease Annex, Community Containment Module V **(CD-V)** for information regarding operational procedures and organization to implement pandemic influenza community containment measures.

Local Health Department Considerations

(See Local Plans)

VI. Infection Control in Healthcare Facilities: Pre-pandemic Phase

State Level Responsibilities **Lead: MDCH (Advisory only)**

MDCH, as a state agency, may provide infection control recommendations to health practitioners, hospitals and medical facilities within the state of Michigan.

- Preparedness activities that health care facilities can address, implement and exercise prior to a pandemic occurrence will strengthen their ability to be prepared and respond effectively and efficiently.
- Infection Control Toolkit Series *Strategies for Pandemics and Disasters© 2002*, from the Association of Professional in Infection Control and Epidemiology (APIC), provides forms, tools and templates for pre-pandemic, pandemic and post-pandemic planning. Each hospital in Michigan was given a toolkit as part of participation in the Regional Preparedness Initiative.

Local Health Department Considerations

The local health department may also provide infection control recommendations to local health practitioners, hospitals and medical facilities within their jurisdiction.

Priority Planning Activities for Healthcare Facilities

While preparing for a pandemic, healthcare facilities should consider the following:

- Plan coordination with local partners is essential.
- Consider using an established multidisciplinary committee, such as an infection control and/or patient safety committee, as long as individuals are present or readily available that have decision-making authority. Include members of the facility's leadership team; those who possess technical expertise, and representatives from potentially affected facility departments.
- The Committee should be charged with development of a facility-specific preparedness and response plan to include:
    - Review of existing response plans to ensure that strategies for pandemic influenza are included.
    - Development and testing of the plan before an outbreak occurs.
    - Development and implementation of an on-going plan for analysis of control measures.
    - Establishment of a mechanism to review the effectiveness of intervention strategies once an outbreak has been verified and eliminated.
    - Delineation of lines of authority and communication for managing day-to-day activities during the pandemic.
    - Ensure disease-based surveillance systems for influenza are in place for patients and staff.
    - Development of Policies and Procedures that address the following:
        - Triage and clinical evaluation.
        - Patient placement, isolation and cohorting as necessary.
    - Infection prevention and control strategies.

  - Respiratory Hygiene/Cough Etiquette for patients, visitors and personnel (see poster in **AH-Attachment 11).**
  - Engineering and environmental controls.
- Provision of antiviral agents to high-priority target groups, especially when vaccine is in short supply, following CDC and MDCH guidelines. (see **PF Attachments 6, 8, 9, 10**)
- Distribution of influenza vaccine to hospital/agency staff, patients and volunteers in priority order depending on supply, following CDC and MDCH guidelines.
- A comprehensive communications plan for effective interactions with the media, LHDs, medical community, general public and neighboring jurisdictions. Communications should be in collaboration with other agencies and the local and state health departments. Consider use of the following (see **PF-II**):
  - Obtaining prototype communication materials for use during the pandemic from MDCH (see **PF-II**).
  - Maintain local and state hotline numbers in a visible location for patients, personnel and visitors as appropriate.
  - Additional Infection Control information relating to isolation and personal protective equipment is available in section VI of the AH Plan and Module VI of the Communicable Disease Annex (**AH-VI** and **CD-VI**).
- Communications with the local and state health departments to transmit surveillance and other relevant data:
  - MIHAN
  - MDSS
  - Syndromic Surveillance
- Resources exist to help health care facilities plan for this and other public health emergencies. Consider contacting the MSIC website www.msic-online.org, or APIC-GD www.apicgd.org or any of the resources located in the AHRP module VI Infection Control **(AH-VI)** for additional information regarding planning.

VII. Vaccines and Antivirals (Medical Management): Pre-Pandemic Phase

Vaccines and Antivirals

State Level Responsibilities **Leads: BOE and OPHP**

- Maintain the following (see **Attachment 6**):
  - A priority listing of groups needing influenza vaccine, e.g., health care workers, emergency responders, and public health personnel and high-risk individuals. This list will be updated with recommendations by the CDC, and may vary according to the epidemiology of the pandemic viral strain.
  - A priority list of groups who should receive antiviral agents in the event of various levels of antiviral shortages, and for what purpose (prophylaxis or treatment).
  - Recommendations for LHDs, in accordance with CDC recommendations on prioritization and distribution of vaccines and antivirals, which the LHDs may revise for their use.
  - Sample public health orders restricting administration of vaccine/antivirals to priority groups only **(Attachments 7, 7a).**
- Determine the amount of vaccine and antivirals likely to be available for distribution by MDCH. The SNS contains a small stockpile of antivirals, which contains 2.16 million treatment courses of oseltamivir and about 5 million treatment courses of rimantadine as of 2 March 2005. This means that Michigan could expect about 73,000 courses of oseltamivir and 170,000 courses of rimantadine if distributed on the basis of population size. Since Michigan has about 10 million residents, less than 3% of the population could be treated under this scenario.
- Maintain protocols and standing orders consistent with federal recommendations for administration and storage of influenza vaccine and antiviral medications.
  - MDCH will assist in obtaining back-up supplies (syringes, swabs, etc), if needed, for the distribution of vaccine and antivirals.
  - Initial storage and shipping will be provided through the MDCH vaccine depot to LHDs.
  - MDCH maintains sample clinic flow charts used to organize large and small influenza prophylaxis/treatment clinics (see **Attachment 9** and the SNS dispensing site plan template, available at michiganhan.org [Document Library/State Agencies/MDCH/OPHP/SNS Plan]).
- Maintain sample vaccine tally sheets and inventory control mechanisms for LHDs and other emergency storage facilities, including hospitals (see **Attachment 13)**.
- Serve as a clearinghouse throughout the state if redistribution activities are needed.
- Confirm availability of resources for the storage, handling and security capacity, at the state level, for influenza vaccine and antiviral agents.

  - Maximum storage capacity for influenza vaccine at the state vaccine depot is 1.5 million doses if packaged in 10 dose vials. If packaged in syringes, the maximum storage is 175,000 doses.
  - Refrigerated trailers could provide additional back-up storage for influenza vaccine.
  - Storage capacity for antivirals at the state vaccine depot is sufficient to hold several million doses, if necessary. Refrigeration of antivirals is not required. A secondary site for additional storage capacity is being negotiated.
  - State vaccine depot security: the building has motion sensors on all doors as well as glass breakage alarms on all windows. Cameras are being added for exterior surveillance. The security coordinator can facilitate use of MSP or Capital Security to provide additional vaccine depot security.
  - MSP can provide security by escorting the vaccine and antiviral agents. Transportation security for shipping of vaccines/antivirals would require packages to be transported from the state vaccine depot to the UPS terminal or other statewide courier at the Capital City Airport.
  - A procedure for tracking of shipments of vaccines is currently in place utilizing the VACMAN system. Personnel from "Vaccines for Children" can expedite this.
  - A procedure for tracking shipments of antiviral agents using the Michigan Childhood Immunization Registry (MCIR) is under development.
- Identify MDCH staff who can be reassigned to provide surge capacity for necessary pandemic treatment / prophylaxis related activities. The Immunization Division maintains employee names and phone numbers. See also AH plan module VII (**AH-VII**) for information on surge capacity of health care workers.
- Develop, where appropriate, consent forms for licensed and unlicensed products for influenza vaccines and antivirals. Final versions will not be available until the new vaccine/antiviral is available. The CDC will be responsible for the development of Vaccine Information Statements (VIS) used during an influenza pandemic.
- For licensed influenza vaccine use, the federal government does not require a signature for consent prior to administration. For unlicensed influenza vaccine use, MDCH will follow the federal regulations and policies per CDC.
- It is anticipated that during an influenza pandemic, the Food and Drug Administration (FDA), may release vaccine and/or antiviral agents under IND (investigational new drug) protocols. Each recipient will need to sign a consent form, but that form is likely to be abbreviated (two pages or less).

MDCH Preparedness Activities In Progress

- MDCH maintains models of signed agreements/contracts that community partners can customize for their biologics distribution plan. LHDs have submitted dispensing site plans as part of the statewide Strategic National Stockpile Plan (SNS) Plan (see below).
- The Michigan Emergency Management Assistance Compact (MEMAC) has not been implemented yet. This is the intrastate compact between local units of

government (counties and municipalities). The MSP-EMD serves as the administrative agency for MEMAC.

- MDCH (OPHP) is developing a database for the identification of volunteers in an event, called the Michigan Volunteer Registry. The **MIHAN Coordinator, OPHP**, is the contact person for this information. Utilization and tracing of those volunteering will be an ongoing activity in partnership with local and regional health agencies.

Local Health Department Considerations

**Note: Many of these responsibilities will be covered by existing LHD emergency response plans.*

- Promote yearly vaccination with influenza vaccine for high-risk populations and for the general population, as well as use of pneumococcal polysaccharide vaccine (PPV) in high-risk groups. (See **Attachment 6**)
- Consider the distribution and administration of vaccine and antivirals within and between jurisdictions. LHDs should collaborate to assure that those within the targeted groups receive the influenza vaccine before others who are not in the targeted groups. Such collaborations may include:
    - Sharing of standing orders.
    - Communication between LHDs, providers, community partners, MDCH, and others to share information about who has vaccine or antivirals and who needs them.
- Implement strategies, if needed, to utilize additional personnel if a pandemic is imminent. Consideration should include:
    - Process of identification.
    - Training guidance.
    - Authorization for usage.
    - Supervision of activities.
- Identify transportation resources within the community for transportation of:
    - Vaccine and antivirals.
    - Individuals within the high priority groups.
    - Supplies and equipment.
    - Health care workers.
- Identify persons who can be reassigned to provide surge capacity for necessary pandemic prophylaxis-related activities.
- LHDs and partners will plan for rapid distribution of a tool to screen persons attending community vaccination clinics along with a guidance document for implementation by all community partners for targeting priority groups. LHDs will individualize the document and will be responsible for assuring communication with their community partners regarding the implementation and compliance.
- LHDs and partners will customize their biologics distribution plan to address:
    - Designation of priority groups to receive vaccines and antivirals.
    - Amount of influenza vaccine/antiviral agents that are needed to treat various groups in their jurisdiction (see **Attachment 6**).

  - Role of community partners (home health care agencies, hospitals, long term care facilities, pharmacies, university health centers, correctional facilities, Red Cross, National Guard etc.).
  - Surge capacity (see AH plan, **AH- VII**).
  - Staffing needs and identification of necessary staff.
  - Storage location and capacity.
  - Signed agreements/contracts (e.g., home health care agencies, hospitals, long-term care facilities, pharmacies, university health centers, etc.).
  - Communication/educational capabilities.
- LHDs and partners will identify at least one appropriate location per county (some counties may require more) for large and small influenza vaccine and antiviral administration sites. Sites already designated as SNS or mass-dispensing sites should be suitable. When selecting sites, consider the following (see **Attachments 8-11** and **Attachment G** of the **SNS Dispensing Site Plan Template** for further details):
  - Rest areas for staff and clients.
  - Restroom/handwashing facilities.
  - Handicap accessibility.
  - Privacy measures (screens) if needed.
  - Communication capabilities (phone, fax, e-mail, MIHAN).
  - Security needs.
  - Staffing needs (guidelines for establishing the ratio of staffing needs versus administration of influenza vaccine and antivirals).
  - Equipment needs (chairs, tables, ropes for line control).
  - Clinic flow.
  - Separation of high-risk groups (asymptomatic/symptomatic, influenza vaccine/antivirals).
  - Response to adverse reactions including immediate treatment and transport mechanisms.
  - Medical supplies per agency policies.
  - Clinic supplies (pens, highlighters, masking tape, paper towels, etc.).
  - Computer support for data entry into the MCIR and record keeping following vaccination.
  - Other items or components for a mass immunization/treatment clinic as identified in the CDC guidelines.
  - Sufficient parking for vehicles.

Medical Management

State Level Responsibilities and Local Health Department Considerations
Lead: BOE

- The MDCH as a state agency will not be providing direct patient care. However, the agency serves a Public Health function in providing advice and information to the public and to health professionals regarding disease presentation, signs and symptoms, and treatment.

Clinical Evaluation of Patients
The information below is for ordinary influenza. Pandemic influenza may or may not differ clinically from ordinary influenza.

- Appropriate treatment of patients with influenza is dependent on early, accurate and timely diagnosis. A combination of influenza surveillance information from state and LHDs, diagnostic testing and clinical judgment is necessary to accurately diagnose and differentiate influenza from other respiratory illnesses. Although influenza viruses typically resolve after a limited number of days, antiviral medication may be appropriate. Secondary bacterial infections can be a complication and may require antibiotic therapy.
- Influenza-related deaths might be caused by pneumonia or exacerbations of other co-morbid cardiopulmonary and other chronic diseases.
- Signs and symptoms are characterized by abrupt onset and usually resolve after a few days, but may last greater than two weeks. These include:
    - Fever (usually high)
    - Myalgias
    - Headache
    - Severe Malaise
    - Non-productive cough
    - Sore throat
    - Rhinitis
    - Children may also experience nausea, vomiting and otitis media
- Incubation period is 1-4 days.
- Infectious period:
    - Adults--day before symptoms begin through approximately 5 days after onset.
    - Children-- Up to 7 days from onset in young children.
    - Severely immunocompromised can shed virus for weeks to months.

Treatment

- Treatment recommendations are available via the CDC website at: **http://www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm**

VIII. DATA MANAGEMENT: Pre-Pandemic Phase

State Level Responsibilities **Lead: BOE**

Disease-based Surveillance (see also **Pre-PF-III)**

- Individual case-based reporting- A provider and/or the LHD enters individual cases under the influenza-like disease diagnosis in MDSS; these are generally lab-confirmed cases.
- Aggregate case reporting-The MDSS receives aggregate counts of ILI electronically from LHDs. This is updated throughout the week by the LHD from IP-10 forms completed by schools recording school absenteeism rates. The MDSS records this information from Sunday to Saturday and derives a total number for the week. The number entered into the MDSS is a running total and must be updated with each additional entry.
- Laboratory-based reporting-The BOL maintains laboratory influenza data.
    - All results of testing performed at MDCH are tracked and reported via EPIC Cohort, the laboratory electronic reporting system. This information is uploaded into the MDSS.
    - Specimens sent to CDC must be tracked through EPIC Cohort. All out-going specimens must receive an EPIC tracking number prior to shipping to CDC. All results from CDC must be submitted to the Data Acquisition and Specimen Handling (DASH) Unit.
    - The Virology Section Manager maintains an Excel spreadsheet that contains the results of all specimens from sentinel influenza sites and all positive respiratory cultures from non-sentinel sites.
- The Communicable Disease Division, on a case-by-case basis, maintains reports and data regarding suspect or confirmed influenza outbreaks.
- Paper/hard copy records are maintained for three years in locked files in the Communicable Disease Division.
- US Influenza Sentinel Provider Surveillance Network (SPSN) data- The Division of Immunization section maintains Michigan's sentinel reporting data in a spreadsheet, which is also maintained nationally by the CDC using an online database. The data is maintained at MDCH on a secure network drive in various Excel workbooks, and is updated weekly so that epidemiologists can analyze and examine it.
- Syndromic Surveillance-refer to (**AH-VIII)** Data Management.

Local Health Department Considerations

(See Local Plans)

IX. International/Border Travel Issues: Pre-Pandemic Phase

State Level Responsibilities **Lead: BOE**

- Refer to **AH-IX** International/Border Travel module for information related to public health emergencies occurring at international borders and on Tribal Land.
- Refer to CD Annex **(CD IX)** for general border/travel issues pertinent to communicable disease.
- The MDCH will assist both federal and local health authorities in the identification and surveillance of travelers who may be at risk for contracting a pandemic influenza strain. The MDCH may also provide an advisory role in the event of early influenza control activities involving border travel.
- See **PF** Situations and Assumptions**.**

Federal Responsibilities:

Suggested Activities for International/ Domestic Travel

- No known global pandemic influenza activity.
  - Outbound travelers–No special recommendations.
  - Inbound travelers–No special recommendations.
- Pandemic Influenza activity known, no U.S. transmission.
  Outbound travelers– (see **CD-IX, 9.3)**
  - CDC will issue Travel Notices for outbound travel to countries with transmission. Depending on the public health situation in the country/area of destination, either a Travel Health Precaution or a Travel Health Warning will be issued. Go to www.cdc.gov/travel/outbreaks.htm for current, specific information on risks and precautions for travel.
  - For a Travel Health Precaution, precautions to reduce risk during stay and before and after travel will be provided.
  - For a Travel Health Warning, non-essential travel will be prohibited to those affected countries.
  - Federal and/or quarantine and local health officials may consider the following options for control of influenza spread. MDCH will provide supportive services as necessary, i.e.:
    - Consider medical screening at all exit points for departing travelers.
    - Consider travel prohibition for all persons meeting case definition with epidemiological link to transmission setting.
    - Consider medical assessment for all with signs/symptoms without an epidemiologic linkage.

  Inbound travelers– (see **CD-IX, 9.3)**
  - Federal and/or quarantine and local health officials may consider the following options for control of influenza spread. MDCH will provide supportive services as necessary.

- Imported cases; limited transmission in location of origin.
    - Distribute health alert notices to all arriving passengers.
    - Health officials should observe passive monitoring of all arriving passengers for development of symptoms.
    - Persons who develop symptoms should self-report before presentation to provider.
    - Follow instructions in **CD-IX, 9.3** (Traveler Screening) for arriving ill passengers.
    - Collect enhanced surveillance for ill passengers.

Local Health Department Considerations

(See Local Plans)

X. Consequence Management/Recovery: Pre-Pandemic Phase

State Level Responsibilities

Refer to Recovery (**AH**-**X**) and Post-Pandemic Phase **(PF-X).**

Local Health Department Considerations

(See Local Plans)

Pandemic Phase Activities

MDCH Pandemic Influenza Response Plan

I. Command and Management: Pandemic Phase

State Level Responsibilities **Lead: OPHP**

For Pandemic Issues refer to the Command and Management section in the AH plan (**AH-I**).

Local Health Department Considerations

(See Local Plans)

II. Crisis Communications: Pandemic Phase

Pandemic Crisis Communications Preamble: The Executive Committee will determine that a influenza pandemic emergency is imminent and/or that a Pandemic should be declared. The state of Michigan will launch a full-scale communications response.

State Level Responsibilities **Lead: OPHP**

- Develop procedures for the regular release of updated information to the public. This will include accurate, rapid, and complete information about influenza activity and circulating strains of influenza virus, recommendations for and availability of vaccines, antivirals, and other recommended health measures.
- Increase public knowledge about pandemic influenza using websites, the media, and collaboration with professional and civic organizations. Give special attention to the common misconception that influenza = 'stomach flu' = gastrointestinal disease. OPHP has 24/7 contact information for key state professional organizations (Michigan State Medical Society, Michigan Infectious Disease Society (MIDS), Michigan Association for Local Public Health (MALPH), Michigan Public Health Association, Michigan Health and Hospital Association, and Michigan Society for Infection Control (MSIC), who have agreed to post information to their websites and disseminate emergency information via their communication channels.
- Work in close consultation with all relevant parties, international, intergovernmental and local, to ensure a consistent and accurate communications response. The Health and Human Services Assistant Secretary for Public Affairs and CDCs Emergency Communication System will serve as a resource to MDCH and local communications personnel, and coordinate the federal public health communication response. They will direct all federal pandemic influenza related communication activities, including communication strategy development, and key message development. MDCH and local partners will harmonize messages used at the national, state and local levels.
- Collaborate with MDCH subject matter experts, as press releases and media statements are prepared. Subject matter experts will be drawn from: OPHP, BOE, and BOL. As influenza materials are approved for clearance, they will be made available to public health officials, health care providers, state and local PIO from all departments, and health care facilities throughout the state. The materials will also be shared with neighboring states and Canada. The MIHAN will be used to disseminate public health alerts and information to those on the system.
- Activated emergency hotlines as needed. Hotline numbers will be made available to designated audiences (see **AH-II**). MDCH shall mobilize staffing and telephones to handle incoming calls. The public can also utilize the CDC Public Response Hotline Service during a pandemic response. All functional 2-1-1 call centers will be utilized. Model scripts for operators on the MIHAN are found in **Attachment 5.**
- The MDCH SHOC shall coordinate with state and local epidemiological and regional medical coordination center personnel to obtain and track information daily on the

numbers and location of new cases, newly quarantined persons, and hospitals with influenza case patients.

Local Health Department Considerations

LHD responsibilities for influenza communications during a pandemic phase include the following:

- In coordination with MDCH, notify and update local health care facilities, Emergency Medical Services agencies, emergency management agencies, and other responders that an influenza pandemic has been declared.
- Notify and provide guidance to physicians, health care facilities, long-term care facilities, schools, and day care centers using Crisis and Emergency Risk Communication (CERC) plans.
- Notify local media and share press releases, fact sheets, media packets, health recommendations, travel advisories and other guidance.
- Notify the public of targeting high priority groups for vaccination and stress the importance of compliance with these recommendations. Be open and honest about shortages of vaccines and antivirals. Include statements about what is being done to protect the public, and steps the public can take to slow or stop the spread of the virus. Also include information on legal authorities invoked for pandemic control.
- Ensure the availability of pandemic influenza materials in multiple languages, based on the demographics of your jurisdiction (see **Attachment 5**).

III. Surveillance: Pandemic Phase

Pandemic Surveillance Preamble**:** During an influenza pandemic MDCH will enhance statewide surveillance activities as described in the surveillance section of this plan. All federal, state, and local surveillance systems will be utilized and findings shared with all federal, state and local partners. MDCH will be tracking and documenting the outbreaks in different geographical areas, and when possible using real-time geographic analysis of surveillance data to help identify regions within the state with high levels of influenza. These data will be used to immediately address questions related to the initial case(s) and to provide guidance to the public regarding disease susceptibility, diagnosis and management.

The Executive Committee will use surveillance data to determine whether a Notice of Imminent Danger should be issued.

State Level Responsibilities **Lead: BOE**

State level responsibilities for influenza surveillance during the pandemic phase include:

- The State Epidemiologist may implement a change in reporting time requirements for laboratory-confirmed influenza from within 72 hours to within 24 hours of diagnosis and require health care facilities and long-term care facilities to report daily to their LHDs the number of ILI cases and the number of people seen or admitted.
- Define and distribute reporting criteria to be used by LHDs in a pandemic declared event. MIHAN may be used.
- Serve as expert consultation to the PIO regarding interpretation and release of surveillance data.
- Monitor CDC and WHO bulletins for updated information on the clinical, epidemiological, and virologic characteristics of the novel variant, and the characteristics and progress of the pandemic.
- Assist with updating LHDs, stakeholders, and other partners on the new information, in accordance with the Communications portion of this plan.
- Implement contingency plans for enhanced statewide surveillance activities, as described in pre-pandemic phase. Continue to coordinate surveillance activities and other findings with neighboring states and federal health agencies.
- Increase the level of sentinel physician surveillance (physician enrollment, reporting, etc.). Work with LHDs to sustain the numbers of physicians actively participating in the Sentinel Physician surveillance program. Encourage prompt reporting.
- Track and documentation outbreaks in various geographic areas of Michigan.
- Use the MDSS to allow rapid identification of regions within the state with high levels of disease and to guide pandemic response efforts. If possible, use a Geographic Information System to further map pandemic influenza activity in Michigan.
- Use the National Retail Data Monitor (NRDM), which may be able to detect areas affected by pandemic influenza through display of pharmaceutical purchasing data.
- Continue to obtain guidance from CDC on any additional surveillance information that is needed.

- Participate in special studies as requested by the CDC, in concert with local health officials, clinicians and academicians to:
- Document outbreaks of influenza in different population groups.
- Describe unusual clinical syndromes and risk factors for those syndromes.
- Describe unusual pathologic features associated with fatal cases.
- Conduct efficacy studies of vaccination or chemoprophylaxis.
- Monitor ability of hospitals and outpatient clinics to cope with increased patient loads.
- Activate system for rapidly tracking influenza mortality.
    - Request weekly data from the state Vital Registrar office on deaths attributed to influenza and pneumonia.
    - Request weekly data from Michigan Medical Examiners on influenza, pneumonia or other respiratory infection-related causes of death.
- Activate system to monitor the sources and antibiotic susceptibility information for cases of community acquired bacterial pneumonia.
- Implement and reinforce strategies to control the spread of the epidemic. (see **CD-V** Community Containment).
- Continue to monitor disease, health outcomes, vaccination coverage and effectiveness, antiviral resistance and vaccine safety.
- Evaluate response and control strategies.

Laboratory Surveillance (see **Pandemic PF-IV)**

Local Health Department Considerations

LHD responsibilities for influenza surveillance during the pandemic phase include:

- Notify and provide guidance to clinicians, health care and long-term care facilities, nursing homes, schools and day care centers of changes in influenza reporting requirements.
- Request and monitor local hospital census data, on an ongoing basis; this can be facilitated with regional medical coordination centers. In coordination with MDCH, provide notification and updates to hospitals, EMS, local law enforcement agencies, and local, private and public partners
- Request and monitor local death rates, on an ongoing basis.
- Implement system for receiving reports on ILI from health care and long-term care facilities on a daily basis.
- Enlist additional clinicians in the Sentinel Physician surveillance program in Michigan, as recommended by MDCH.
- Assist in coordination of the collection and shipping of clinical specimens to MDCH laboratory, according to protocols established by MDCH.
- Work with MDCH to conduct special studies, according to protocols supplied by MDCH.
- Remain in close communication with regional medical coordination center for evaluating the status of pre-hospital and hospital capacities within the jurisdiction.

IV. Laboratory Guidelines: Pandemic Phase

State Level Responsibilities **Lead: BOL**

MDCH BOL will:

- Receive guidance from CDC on the criteria for specimen submission as well as the appropriate influenza diagnostic testing to be performed on surveillance specimens.
- Determine current surge capacity and testing priorities in consultation with the BOE. Consider how many specimens can be processed daily, which tests will be performed, and which specimen submitters have priority.
- Develop staffing schedules to accommodate extra testing shifts using personnel from other sections, other state laboratories (e.g., MDA), and regional labs.
- Work with MDCH purchasing to maintain sufficient supply of reagents and materials.
- Virology section will report only confirmed positive results to the submitter and LHDs simultaneously via the EPIC reporting system and MDSS.
- The Virology Section manager will define appropriate specimens for submission and communicate this information to the medical community, including LHDs, clinical lab directors, epidemiology staff, and physicians. Updates will be available at: http://www.michigan.gov/mdchlab.
- Communicate the updated information on pandemic influenza to Michigan laboratories via broadcast fax or MIHAN.
- Send selected influenza isolates to CDC for strain characterization and antiviral resistance testing.
- Collaborate with clinicians and clinical laboratories for information on secondary bacterial infection isolates associated with influenza and request submission of these bacterial isolates to MDCH.
- Collaborate with pathologists and medical examiners to facilitate transport of special or post-mortem specimens to BOL for testing or forwarding to CDC.

Local Health Department Considerations

Clinical Laboratories will:

- Follow specimen collection and transport procedures based upon guidance from MDCH.
- Expedite collection, processing, and transport of postmortem tissue specimens to MDCH BOL if requested by MDCH or CDC.
- Submit specimens from cases suspected of novel influenza or submit isolates of selected influenza to MDCH BOL.

Local Health Agencies will:

- Distribute MDCH provided specimen collection and submission kits to appropriate providers, according to protocols established by MDCH.
- Coordinate collection and shipping of clinical specimens to MDCH laboratory, according to protocols established by MDCH. Refine specimen collection and transport procedures based upon guidance from MDCH.
- Provide regional laboratory personnel for surge capacity as requested by MDCH.

V. Community Containment: Pandemic Phase

State Level Responsibilities **Lead: BOE**

- Refer to **AH-V** and **CD-V** for information regarding community containment in the event of pandemic influenza.

Local Health Department Considerations

(See Local Plans)

VI. Infection Control in Health Care Facilities: Pandemic Phase

State Level Responsibilities **Lead: BOE**

MDCH provides consultation as stated in pre-pandemic responsibilities.

Local Health Department Considerations

(See Local Plans)

Healthcare Facilities Considerations

- Health care facilities will most likely be operating within their facility emergency/disaster response plans. Implement the plan which will include the following steps:
  - Vaccinate direct caregivers and monitor compliance levels.
  - Identify facility point of contact for local and state health department information exchange.
  - Identify mechanisms necessary for triage of personnel, patients, and visitors upon arrival to facility.
  - Facility infection control surveillance activities should ensure that possible cases are identified.
  - Keep communications occurring within facility on status of beds, supplies, and personnel to meet the increasing needs.
  - Maintain daily communication with hospital epidemiologist, infectious disease physician and/or designee with health care facility administration.
  - Maintain daily communication with central supply/purchasing to ensure facility maintains an adequate supply of personal protective equipment.
  - Communicate with the facility's Emergency Operation Center (EOC) and Regional Medical Coordination Center.
  - Monitor compliance for patient triage and placement.
  - Monitor status of morgue services consistent with plan.

- Additional Infection Control information relating to isolation and personal protective equipment is available in **AH-VI**, **CD-VI** and pre-pandemic **PF-VI**.

VII. Vaccines and Antivirals (Medical Management): Pandemic Phase

Vaccines and Antivirals
State Level Responsibilities **Leads: BOE and OPHP**

- Ensure listings of LHD vaccine distribution sites are current (using VACMAN, the software package used by the Division of Immunization to track vaccine supplies). Update as new sites are established.
- Obtain assistance from MSP/Capitol Security with secure transport of vaccine/antivirals per the SNS plan and MEMP. Consider whether such assistance is also needed for vaccine depot security.
- Obtain and disseminate updated information on the availability of influenza vaccine and antiviral supplies as well as information on mass clinic supplies.
- Purchase additional vaccine/antivirals if possible. Work with other states and CDC to do so. Make excess supplies available to other states as needed.
- Define priority groups (see **Attachment 6**) to receive antivirals.
- Implement plans for the distribution and administration of vaccine and antivirals within Michigan, which will be greatly influenced by supply. This will include:
  - Recommendations/public health orders that those within priority groups receive vaccine/antivirals before those who are not in priority groups (see **Attachment 6**). This may take the form of publicizing or modifying CDC guidelines.
  - Dissemination of such recommendations to LHDs.
  - Sharing of standing orders for vaccination/antiviral administration (see **Attachments 13-16**).
  - Communication between health care providers, community partners, and others about who received vaccine/antivirals, and who needs them.
  - Monitor surveillance data to guide decisions about timing/location of local/regional clinics for administration of vaccine and/or antivirals.
  - Monitor availability and coordinate distribution and delivery of influenza vaccine and antivirals. See **Attachments 8-16** for details on logistics and planning and the SNS plan. (NOTE: The SNS plan is available in the MIHAN document library and within the SHOC).
  - Use MCIR for management of vaccine/antiviral administration data.
- Monitor the Vaccine Adverse Events Reporting System and transmit information to CDC so that unexpected adverse events can be detected early and vaccine recommendations altered accordingly. Report any adverse events that appear to be related to vaccine or antivirals to LHDs and partners.
- Provide support as needed to studies carried out by other organizations (such as CDC) pertaining to pandemic influenza prophylaxis and/or treatment.

Vaccines and Antivirals- Local Health Department Considerations

- Obtain updated information on local influenza vaccine supplies, antiviral supplies, and other clinic supplies.

- Maintain close communication with local health care facilities and clinicians on their vaccine and antiviral status.
- Activate SNS response plan for mass clinic/dispensing sites.
- Alert MDCH staff identified to provide surge capacity and ensure pre-identified clinic sites are notified and on alert.
- Implement local plans for (re) distribution of influenza vaccine/antivirals (public sector-private sector). This should be largely covered by existing emergency response plans (e.g., SNS).
- Determine if there are sufficient supplies of vaccine syringes, needles, information sheets, staff, clinic space, laptops with data collection software, signs, waiting areas, greeters, cots, phones, volunteers, etc. (see **Attachment 10**).
- Monitor availability and coordinate distribution and delivery of influenza vaccines and antivirals.
- Ensure "runners" for redistribution/transportation of vaccine and antivirals between clinic sites.
- Administer influenza vaccine and/or antivirals to targeted groups of people according to MDCH recommendations (see **Attachment 6**). Use MCIR to record vaccine/antiviral administration.
- If unlicensed pharmaceuticals will be used, obtain signatures of consent from all persons receiving them.
- Store influenza vaccine according to MDCH guidelines (see **Attachment 11**).
- Report adverse events to MDCH and to Vaccine Adverse Events Reporting System (VAERS): http://vaers.hhs.gov/
- Utilize NIMS to continually review local supplies of influenza vaccine and antiviral agents and notify MDCH regarding availability.
- Provide security for vaccine/antiviral supplies and clinics. Notify MDCH (OPHP) and local law enforcement agencies about any newly identified security concerns.
- If vaccines/antivirals are obtained from the SNS, standing orders for their administration will be executed. These orders will need to be developed in accordance with CDC guidelines, as some avian influenza strains are noted to be resistant to particular antivirals, and resistance patterns change over time.
- Recommendations that are different from routine influenza vaccine administration guidelines will be communicated to regional and local partners.
- Current non-pandemic influenza treatment guidelines (February, 2005) are available via the CDC at the following website: http://www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm

Medical Management (see **Pre-PF-VII)**

VIII. Data Management: Pandemic Phase

State Level Responsibilities

- Data management plans will remain consistent with that outlined in the pre-pandemic phase.

Local Health Department Considerations

(See Local Plans)

IX. International/ Border Travel Issues: Pandemic

Refer to the Base Plan's (**AH-IX)** International Border/Travel Issues module for information related to public health emergencies on tribal land. See the CD Annex (**CD-IX**) for information regarding Communicable Disease and travel.

MDCH Interaction with Federal and Local Health Agency Roles
Federal and/or quarantine and local health officials **may** consider the following options for control of influenza spread among travelers. MDCH will provide supportive services as necessary:

Pandemic Influenza activity known in the U.S. and Michigan, with extensive transmission and effective control measures*:*
Outbound travelers

- CDC will issue international travel alerts/advisories/prohibitions. (see **CD-IX**).
- Issue alerts/advisories/prohibitions for domestic destinations.
- Initiate medical screening of departing passengers at all exit points.
- Prohibit all travel for persons meeting case definition. Require health certificate for exit.

Inbound travelers
Imported cases; limited transmission in location of origin or extensive transmission/effective control measures:

- Minimize non-essential travel.
- Consider restricting travel within jurisdictions.
- Arrival should follow procedures based on situation in location of origin

Extensive transmission/ineffective control measures:

- Prohibit all non-essential arrivals.
- Medical screening upon arrival.
- Mandatory 10-day quarantine for all asymptomatic arrivals.
- Collect contact information on all arriving passengers.

Pandemic Influenza activity in Michigan with extensive transmission and ineffective control measures.
Outbound travelers

- CDC will issue international and domestic travel alerts/advisories/prohibitions as above.
- Prohibit nonessential outbound travel.
- Require health certificate for essential travel.
- Implement medical screening at all exit points.
- Prohibit travel for all persons meeting case definition.
- Prohibit travel for all persons under quarantine.

Inbound travelers

Imported cases; limited transmission in location of origin or extensive transmission/effective control measures.

- Prohibit all non-essential arrivals.
- Arrivals should follow procedures based on situation in location of origin.

Extensive transmission/ineffective control measures

- Prohibit all non-essential arrivals.
- Medical screening upon arrival.
- Mandatory 10-day quarantine for all asymptomatic persons.
- Collect contact information on all arriving passengers.

Local Health Department Considerations

(See Local Plans)

X. Consequence Management/Recovery: Pandemic Phase

State Level Responsibilities **Lead: OPHP**

Refer to Post-Pandemic Phase, Module **X.**

Local Health Department Considerations

Immediate Emergency Period- (Humanitarian Relief).

- Emergency medical care.
- Emergency communications.
- Temporary morgue establishment.
- Enactment of special ordinances if required.
- Mental Health support for survivors and medical personnel Short Term Recovery period.
- Implement methodology for post-decontamination vehicle and equipment restoration and re-supply.
- Federal assistance programs (individual and public).
- Evaluate the need for long-term mental health support.
- Restoration of comprehensive public health services and health care facilities, Long Term Recovery Period (Reconstruction/Redevelopment).
- Risk assessment and review.
- Economic redevelopment.
- Establish community recovery programs.

Post-Pandemic Phase Activities

MDCH Pandemic Influenza Plan

I. Command and Management: Post-Pandemic Phase

State Level Responsibilities **Lead: OPHP**

Recovery activities are further addressed in **AH-I and AH-XI,** and Post-Pandemic Sections **(X**) of this plan.

- All divisions involved with the pandemic influenza response will compile a list of successes and problems encountered during the response.
- All lists will be sent over to the MDCH Emergency Management Coordinator (EMC) who will compile the reports into one document, an MDCH After Action Report (AAR) for the Department.
- Once the EMC and the OPHP Director have completed the AAR, the areas not addressed in this report will need to be incorporated into the MDCH Corrective Action Plan (CAP). Where the AAR addresses the successes, failures, and remedial actions take by the Department in response to an event, the CAP continues from the AAR in addressing those issues identified as requiring change but will take some time to correct.
- The report developed for the CAP should be a summary of the issues, the steps taken to correct them and when those necessary changes are proposed to go into affect. References to the AAR may also be incorporated into this report.
- The AHRP and Pandemic Influenza Plans will be revised in response to the AAR.

Local Health Department Considerations

(See Local Plans)

- The LDH AARs must be submitted to the MDCH Emergency Preparedness Coordinator (EPC) in OPHP within 30 days from the incident.

II. Crisis Communications: Post-Pandemic Phase

The Executive Committee will determine that an end to the first wave or to the pandemic should be declared. This will follow an international (WHO) declaration and/or national (CDC) declaration.

State Level Responsibilities **Lead: OPHP**

State level responsibilities for influenza communications during the Post-Pandemic Stage include:

- The MDCH shall notify LHDs partners, and the public of the end of the first wave, but advise of the need to remain alert and continue surveillance for a second wave. This will be communicated using press releases, the MIHAN, professional organizations, etc.
- When appropriate, MDCH shall notify all partners and the public of the end of the pandemic.
- The MDCH PIO shall prepare final news releases and advise media representatives of points-of-contact for follow-up stories.
- MDCH shall evaluate the response to the pandemic and produce an after action report (AAR). The AAR will review emergency communication activities, including media relations, health recommendations to the public, and rumor control. Useful evaluation documents include press releases, press clips, a summary of public reactions and concerns (based on communication with other public health agencies) and a final chronology of the event.

Local Health Department Considerations

LHD considerations for influenza communications during the post-pandemic stage include:

- Notify local partners of the end of the first wave, but advise of the need to remain alert and continue surveillance to detect and respond to a possible second wave of illness, or notify partners of the pandemic end.
- Participate in evaluation of the pandemic communications response and identify areas that worked well and those that will require work.
- Produce an AAR summarizing “lessons learned” from the pandemic. The AARs must be submitted to the MDCH EPC in OPHP within 30 days from the incident.

III. Surveillance: Post-Pandemic Phase

The Executive Committee via information from the CDC will determine that an end to the first wave or to the pandemic should be declared.

State level responsibilities **Lead: BOE**

State level responsibilities for influenza surveillance during the post-pandemic phase include:

- In accordance with the communications portion of the plan, assist in notifying LHDs and other partners of the end of the first wave and/or that an end to the pandemic is declared.
- Continue surveillance for influenza according to CDC recommendations.
- Maintain high level of sentinel provider surveillance to aid detection of successive waves of influenza outbreaks, pandemic or otherwise. Review participation status of enrolled sites and recruit new sites as needed to maintain high participation rates.
- Compile and distribute an AAR on surveillance activities including a review of surveillance structure, identification of system weaknesses and recommendations for improvement. This will also be sent to OPHP to be included in the MDCH agency AAR.
- Compile, analyze, and distribute data pertaining to vaccine efficacy in collaboration with the Immunization Division.
- Summarize findings from the epidemiological characteristics of the pandemic in Michigan and submit to the Director, MDCH, and to CDC.
- Review, evaluate and update the surveillance component of the pandemic response plan.
- Assess vaccine coverage and determine the number of people who remain unprotected.

Local Health Department Considerations

LHD considerations for influenza surveillance during the post-pandemic phase include:

- Continue influenza surveillance with local partners according to MDCH recommendations.
- In coordination with MDCH, provide surveillance summaries to health care facilities, Emergency Medical Services, local law enforcement agencies, and local, private and public partners.
- Report pandemic-related summaries and other relevant information to MDCH.
- Review and address gaps in surveillance/reporting systems for influenza associated morbidity and mortality.
- Review, evaluate, and modify, as needed, the surveillance component of the local pandemic response.
- Health care facilities must remain vigilant in facility-specific surveillance activities in this phase to avoid an unrecognized “second wave” within the facility.
- Consider continuing triage system for a period of time once the end of the pandemic phase has been declared.

IV. Laboratory Guidelines: Post-Pandemic Phase

State Level Responsibilities- **Lead: BOL**

- Virology section at the BOL, will maintain routine seasonal laboratory testing (November through April) of specimens submitted by sentinel influenza sites. This system will be augmented with other activities according to CDC recommendations.
- BOL will evaluate its pandemic response and document lessons learned with an AAR in order to improve response to future pandemics or public health emergencies.
- The BOL will forward its AAR to the Emergency Management Coordinator.

Local Health Department Considerations

(See Local Plans)

Clinical Laboratory Responsibilities

- Will continue to participate in sentinel surveillance by submission of clinical specimens or influenza isolates to BOL.

V. Community Containment: Post-Pandemic Phase

State Level Responsibilities **Lead: BOE**

- Refer to Recovery (**PF-X**) and the Communicable Diseases Annex Recovery Sections (**CD-X**).

Local Health Department Considerations

(See Local Plans)

VI. Infection Control in Health Care Facilities: Post-Pandemic Phase

State Level Responsibilities **Lead: BOE**

See previous Pre-pandemic and Pandemic responsibilities.

Local Health Department Considerations

(See Local Plans)

Healthcare Facilities

Infection control activities include evaluation and recovery. This includes the following:

- Participate in reviews of the response within the facility and with local, regional and state partners.
- Develop an AAR and lessons learned, and share this information with staff
- Revise any policies, procedures and plans identified as needing clarification or revision.
- Develop new policies or procedures that were not in place and would have been beneficial.
- Communicate all revisions to affected staff.
- Inform staff that the pandemic is over, but caution to continue to use good infection control and prevention strategies as outlined in the **AH-VI.**
- Caution staff to remain vigilant during patient triage for a potential second wave.
- Continuing to participate in surveillance and monitoring activities (local, regional and state) i.e., MIHAN, Syndromic Surveillance and MDSS.

VII. Vaccines and Antivirals (Medical Management): Post-Pandemic Phase

Vaccines and Antivirals

State Level Responsibilities **Leads: BOE, OPHP**

- Continue sharing information with CDC about adverse events associated with vaccine or antivirals.
- MDCH and CDC will determine when to discontinue the adverse events reporting system.
- MDCH, in conjunction with CDC recommendations, will determine need to discontinue distribution of antivirals and make recommendations to local public health.
- MDCH will compile and distribute lessons learned regarding the treatment and prophylaxis process to aid in planning for future pandemics or other public health emergencies.
- MDCH will give directions to LHDs on the return of unused vaccines, drugs, and other equipment.

Local Health Department Considerations

- Contribute after action items and reviews to the MDCH AAR and CAP. These serve to aid planning for future public health emergencies.
- Return all unused and unopened vaccines and antivirals according to directives from MDCH.

Medical Management

- MDCH will continue to provide public health recommendations to health care providers as requested and appropriate.

VIII. Data Management: Post-Pandemic Phase

State Level Responsibilities

Assess performance of various data systems and take steps to upgrade as necessary.

Local Health Department Considerations

(See Local Plans)

IX. International/Border Travel Issues: Post-Pandemic Phase

- Refer to Recovery (**Post-PF-X**).

X. Consequence Management/Recovery: Post-Pandemic Phase

State Level Responsibilities **Lead: OPHP**

- Take “lessons learned” and modify existing plans as needed.
- An event summary will be developed and reviewed utilizing the MDCH AAR and CAP.
- Provide guidance to LHDs and other state and local agencies for the recovery and maintenance of the public health infrastructure, as pandemic influenza constitutes a significant public health emergency.
- Other activities may be added as conditions dictate. (see **AH-X**). Most of the activities listed below will be initiated locally with assistance and guidance from multiple state agencies including MDCH. The Michigan Emergency Management Plan contains information regarding roles and responsibilities of state and local agencies in these efforts (OPHP has this on file).
- Identify effective surveillance, community containment and infection control procedures in preparation for a possible second pandemic wave.

Local Health Department Considerations

- Consider pulling together local health care and emergency first responders for an overall AAR.
- Take “lessons learned” and modify existing plans as needed.
- Identify effective surveillance, community containment and infection control procedures in preparation for a possible second pandemic wave.

ATTACHMENTS

MDCH PANDEMIC INFLUENZA PLAN

ATTACHMENTS INDEX

Pre-Pandemic

Pandemic

Attachment 1: Overview of Influenza Surveillance in the United States Source: CDC – http://www.cdc.gov/flu.

The Influenza Branch at CDC collects and reports information on Influenza activity in the United States each week from October through May. The U.S. Influenza surveillance system has four separate components that allow the Influenza Branch at CDC to:

- Find out when and where Influenza is circulating.
- Determine what type of Influenza viruses are circulating .
- Detect changes in the Influenza viruses.
- Track Influenza-related illness.
- Measure the impact Influenza is having on deaths in the United States.

The Four Components of Influenza Surveillance:

1. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) Collaborating Laboratories About 75 WHO and 50 NREVSS collaborating laboratories located throughout the United States report the total number of respiratory specimens tested and the number positive for Influenza types A and B each week. Some laboratories also report the Influenza A subtype (H1N1 or H3N2) of the viruses they have isolated and the ages of the persons from whom the specimens were collected. Some of the Influenza viruses collected by laboratories are sent to CDC for more testing.

2. U.S. Influenza Sentinel Providers Surveillance Network

Each week, approximately 900 health care providers around the country report the total number of patients seen and the number of those patients with ILI by age group. For this system, ILI is defined as fever (temperature of >100˚F) plus a cough or a sore throat.

The percentage of patient visits to sentinel providers for ILI reported each week is weighted on the basis of state population. This percentage is compared each week with the national baseline of 2.5%. The baseline is the mean percentage of visits for ILI during non-Influenza weeks for the 2000-01 to 2002-03 seasons plus two standard deviations. Due to wide variability in regional level data, it was not possible to calculate region-specific baselines and it is not appropriate to apply the national baseline to regional level data.

3. 122 Cities Mortality Reporting System Each week, the vital statistics offices

of 122 cities report the total number of death certificates filed and the number of those for which pneumonia or Influenza was listed as the underlying or as a contributing cause of death. The percentage of all deaths due to pneumonia and Influenza are compared with a baseline and epidemic threshold value calculated for each week.

4. State and Territorial Epidemiologists Reports

State health departments report the estimated level of Influenza activity in their states each week. States report Influenza activity as no activity, sporadic, local, regional, or widespread. These levels are defined as follows:

No Activity: No laboratory-confirmed cases of Influenza and no reported increase in the number of cases of ILI.

Sporadic: Small numbers of laboratory-confirmed Influenza cases or a single Influenza outbreak has been reported, but there is no increase in cases of ILI.

Local: Outbreaks of Influenza or increases in ILI cases and recent laboratory-confirmed Influenza in a single region of the state.

Regional: Outbreaks of Influenza or increases in ILI and recent laboratory confirmed Influenza in at least 2 but less than half the regions of the state.

Widespread: Outbreaks of Influenza or increases in ILI cases and recent laboratory-confirmed Influenza in at least half the regions of the state.

Together, the four Influenza surveillance components are designed to provide a national picture of Influenza activity. Pneumonia and Influenza mortality is reported on a national level only. Sentinel physician and laboratory data are reported on a national level and by Influenza surveillance region. The state and territorial epidemiologists' reports of Influenza activity are the only state-level information reported.

It is Important to Remember the Following About Influenza Surveillance in the United States:

- All Influenza activity reporting by states and health care providers is voluntary.
- The reported information answers the questions of where, when, and what Influenza viruses are circulating. It can be used to determine if Influenza activity is increasing or decreasing, but cannot be used to ascertain how many people have become ill with Influenza during the Influenza season.

Attachment 2: Vet Net

www.michigan.gov (To Print: use your browser's print function)	Release Date: January 29, 2004 Last Update: January 29, 2004

Contact: Sara Linsmeier-Wurfel, MDA, 517-241-4282; Dr. Dan Grooms, MSU CVM, 517-432-1494

Agency: Agriculture

Michigan launches "Vet Net"; Partnership initiated to enhance Michigan's preparedness for animal health emergencies

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January 29, 2004 - A coalition of state, university and industry officials-MDA Director Dan Wyant, Dr. Lonnie King, Dean of the College of Veterinary Medicine at Michigan State University (MSU CVM), and Dr. Judy Violante of the Michigan Veterinary Medical Association (MVMA)-today announced the creation of the Michigan Emergency Veterinary Network or "Vet Net" as part of Michigan's homeland security efforts in the animal health and protection arena.

Dr. Dan Grooms of MSU CVM and Dr. Nancy Frank of MDA, unveil the Michigan Vet Net program.

Michigan's Vet Net, one of the first such programs in the nation and made possible by federal homeland security dollars and funding from MSU CVM, is a comprehensive education and training program geared toward the state's nearly 3,600 licensed veterinarians to enhance their awareness, preparedness and response to animal disease-related emergencies. The program was officially unveiled at the annual Michigan Veterinary Conference this past week-end.

It will include two main components: a general education series for all veterinarians and an in-depth emergency preparedness training program for those who sign up to serve in the "corps." This volunteer corps will be a group of private veterinary practitioners from across Michigan trained to identify and handle a wide variety of animal diseases that will help supplement state and federal veterinarian/agency efforts and further ensure the health and safety of the state's livestock and domestic animals.

According to Wyant, the single case of Bovine Spongiform Encephalopathy (BSE) or "Mad Cow Disease" in Washington state, helps showcase the tremendous value this program could have in Michigan should such a disease ever be detected in the state.

"In addition to complementing the state's existing food and agriculture security efforts, with "Vet Net," Michigan will have a built-in support network that will be critical for rapidly distributing information during an animal health emergency like BSE as well as having a team of trained frontline responders who could assist in surveillance and response efforts," Wyant said.

"A program like Vet Net is now more important than ever in light of emerging infectious and foreign animal diseases as well as worldwide threats of bioterrorism," King added. "Private practitioners are often the first to see animals with unusual symptoms and are the ones more likely to talk with the farmers, producers or pet owners so we need to make sure these veterinarians in the field are prepared to deal with emergency disease situations."

"Success in addressing disease outbreaks is markedly enhanced by early disease detection and a swift, appropriate response," Violante said. "Success in handling a situation in Michigan will be partially dependent on providing our private veterinary practitioners with adequate knowledge and skills to recognize and respond to a cadre of diseases in multiple animal species. We strongly encourage all MVMA members and veterinarians across the state to participate in the Vet Net training program and corps."

Vet Net will be implemented in three phases. The first phase will focus on the development and distribution of a resource binder and emergency contact information for all licensed veterinarians in Michigan. Fact sheets on biosecurity, foreign animal diseases, bioterrorism agents and emerging infectious diseases of concern in Michigan and the United States will be also distributed on a quarterly basis. When all the fact sheets are distributed, veterinarians in Michigan will have a resource binder with information on all diseases in Category A of the U.S. CDCs list of possible bioterrorism agents and all diseases on the U.S. Department of Agriculture High Consequence Livestock Pathogens and Toxins list.

Phase II of the program entails specialized training for Michigan veterinarians. The first training session, to be held this coming spring, will focus on the incident command system and biosecurity practices. Veterinarians who complete this initial training session will become certified members of Vet Net corps and will be considered "on call" in case of an animal health emergency in their local or regional Michigan community.

Phase III of Vet Net is ongoing training opportunities for Michigan veterinarians on foreign animal diseases, emerging infectious diseases, bioterrorism agents and emergency response. These training sessions will help the Vet Net corps maintain a high level of preparedness in case of an emergency.

Vet Net partners include MDA, MSU CVM, MVMA, the MDCH, MSU Extension, USDA and private practitioners across the state.

Veterinarians who wish to register for the Vet Net training program can contact MDAs Animal Industry Division at 517-373-1077.

Attachment 3: Guidelines for Collection of Specimens in Michigan for Pandemic/Novel Flu Alert

- Please contact the MDCH BOE at 517-335-8165, (after hours/weekends at 517-335-9030) for consultation to determine whether patients potentially meet the case definition for pandemic/novel flu before collecting and shipping specimens for flu testing. BOL at MDCH will not test specimens without approval by BOE.
- In the absence of pandemic flu worldwide (pre-pandemic), patients hospitalized with radiographic evidence of pneumonia should be evaluated by testing in the clinical laboratory for the most likely alternative diagnoses. Agents/tests which might be included in this process:
    - Sputum culture and Gram's stain for bacterial infections (e.g., *H. influenzae* and *S .pneumoniae*.)
    - Viral respiratory pathogens. (Influenza A & B, RSV, adenovirus, parainfluenza virus).
    - *Mycoplasma pneumoniae and Chlamydiaphila pneumoniae.*
    - Legionella and pneumococcal urinary antigen.
    - Human metapneumovirus.

Note: Picornavirus and rhinovirus are likely agents but testing is not readily available for these viruses. Testing to rule out these agents will be pursued at MDCH only if the testing is deemed of epidemiologic significance by BOE.

Table 1: Priority specimens to collect during the course of illness for evaluation of potential cases of pandemic /novel flu in Michigan

Specimen	Submit Using	Likelihood of demonstrating agent
Nasopharyngeal and oropharyngeal swabs	MDCH Unit 45	**+ ++ +**
Bronchoalveolar lavage (BAL), tracheal aspirate, pleural tap fluid	MDCH Unit 45	**+ ++ +**
Nasopharyngeal wash/aspirate	MDCH Unit 45	**+ ++ +**
Autopsy or biopsy tissue*	MDCH Unit 45	**+ ++ +**
CSF	MDCH Unit 45	**+**
Sputum, serum		Not useful for flu testing; archive to test for other agents

***Fixed tissue from all major organs, frozen tissue from lungs and upper airway.**

Attachment 4: Specimen Collection Procedures for Michigan

Before collecting specimens, review infection control precautions at: http://www.cdc.gov/flu/professionals/infectioncontrol.

A. Respiratory Tract Specimens

Respiratory specimens should be collected as soon as possible in the course of illness for most respiratory pathogens. The likelihood of recovering most viruses diminishes markedly >72 hours after symptom onset. Types of respiratory specimens that may be collected for viral and/or bacterial diagnostics include: 1) nasopharyngeal wash/aspirates; 2) nasopharyngeal (N/P) swabs; 3) oropharyngeal swabs; 4) broncheoalveolar lavage; 5) tracheal aspirate; 6) pleural tap; or 7) sputum (see Table 1 in Attachment IV-1 for recommended specimen type). Nasopharyngeal wash/aspirates are the specimen of choice for detection of most respiratory viruses and are the preferred collection method among children aged <2 years.

1. Upper respiratory tract:

- **Collection of nasopharyngeal wash/aspirate**
  Have the patient sit with the head tilted slightly backward. Using a sterile rubber bulb syringe, or 14 French catheter or similar tubing connected to a disposable, Luer-tip syringe, instill 4-5 ml of non bacteriostatic saline (pH 7.0) into one nostril. Aspirate nasopharyngeal secretions with bulb syringe or tubing connected to Luer-tip syringe or tilt the head forward and allow fluid to drain out of the nares into a sterile container. Repeat this procedure for the other nostril. Collect specimens in sterile vials. Each specimen container must be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4°C.
- **Collection of nasopharvngeal or oropharvngeal swabs**
  Use only sterile dacron or rayon swabs with plastic shafts. Do **NOT** use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit PCR testing.
  1) Nasopharyngeal swabs–Evaluate nasal septum; do not proceed if septum deviated. Insert swab into nostril parallel to the palate and leave in place for a few seconds to absorb secretions. If swab both nostrils, use one swab.
  2) Oropharyngeal swabs–Swab both posterior pharynx and tonsillar areas, avoiding the tongue.
  Place swabs (whether NP or OP) immediately into sterile vials containing viral media. Rotate swabs in fluid. Express excess fluid by turning against sides of tube and discard swabs prior to tightening the cap. Each specimen container must be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4°C.

2. Lower respiratory tract

- **Collection of bronchalveolar lavage, tracheal aspirate, pleural tap**
  If these specimens have been obtained, half should be centrifuged and the cell-pellet fixed in formalin. Remaining unspun fluid should be placed in sterile vials with caps which cover the threads of the tube and internal O-ring seals. If there are no internal O-rings, then seal tightly with the available cap and secure with Parafilm®. Each specimen container must be labeled with patient identifier and the date the sample was collected. Ship with cold packs to keep sample at 4°C.
- **Collection of sputum**
  Educate the patient about the difference between sputum and spit. Have the patient rinse the mouth with water then expectorate deep cough sputum directly into a sterile screw-cap sputum collection cup or sterile dry container. Label with patient identifier. Ship with cold packs to keep sample at 4°C.

Holding and Shipping Specimens
Specimens should be collected as early in the course of disease as possible (as soon as influenza is considered in the differential diagnosis, or rapid influenza tests are positive) and transported to the lab. Complete a test requisition, **adding the approval number supplied by BOE (call 517-335-8165, or 517-335-9030 after hours) in the "Submitter's Patient Number" space.** Samples will not be tested without this number. If approval from BOE for testing is not available please freeze specimens taken **during the 72- hour observation period of the patient** at -70°C**.** Once MDCH BOE approves testing, samples should be expeditiously transported to MDCH BOL on dry ice. Contact the MDCH BOL (517-335-8063 or 517-335-9030 after hours) if assistance is needed to expedite shipment. Packages containing clinical specimens and/or diagnostic agents must conform to federal regulations (see **will insert CDC website when updated)**
NOTE: Specimens shipped by commercial couriers, which may utilize air transport even when delivering within the state of Michigan, must be packed in 6.2 packaging as "diagnostic specimens."

Turn-around time for Influenza Tests
Specimens tested positive for influenza by rapid tests need to be transported to BOL at MDCH immediately for testing by viral culture or PCR for influenza A and B. Results can normally be expected in 2-3 workdays, depending upon testing volume. Positive results suggesting a pandemic or novel strain will require confirmation by repeat testing, and possibly retesting at CDC. If the specimen is likely novel influenza A, and is not H3 by PCR testing, MDCH will not proceed with viral culture, but will forward to CDC for further testing.

Laboratory Biosafety Guidelines for Michigan Laboratories Handling And Processing Specimens Associated with Influenza
Key Messages

- **Information is subject to modification. Check www.michigan.gov/mdchlab for most recent guidelines.**
- Laboratories performing routine hematology and clinical chemistry studies should handle specimens from potential pandemic/novel flu cases similarly to

specimens containing other blood borne pathogens (e.g., hepatitis or HIV, see specific biosafety guidelines at www.cdc.gov/od/ohs/biosftv/bmbl4/bmbl4s7f.htm. Use Standard Precautions/Universal precautions, wear PPE (lab coat & gloves) PLUS goggles and a face shield or mask and avoid creating or contain aerosols.

- **Any procedure with potential to generate aerosols should be performed in biological safety cabinets (BSCs). When centrifuging samples, use sealed centrifuge rotors or sample cups. Rotors and cups need to be loaded and unloaded in BSC.**
- Laboratories performing serology or RT-PCR testing should handle potential flu specimens using Standard Precautions (previously Universal Precautions, wear PPE [lab coat & gloves], avoid creating or contain aerosols).
- A detailed description of recommended facilities, practices, and protective equipment for the various laboratory biosafety levels (BSLs), can be found in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual at www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm.
- **Use BSL-2 with standard BSL-2 work practices* for:**
  1) Routine examination of bacterial and mycotic cultures;
  2) Routine staining and microscopic analysis of fixed smears;
  3) Final packaging of specimens to transport to diagnostic laboratories for additional testing; (Specimens should already be in a sealed, decontaminated primary container.)
  4) Molecular analysis of extracted nucleic acid preparations;
  5) Electron microscopic studies with glutaraldehyde-fixed grids;
  6) Rapid (membrane-bound EIA) Influenza tests;
  7) Pathologic examination and processing of formalin-fixed or otherwise inactivated tissues.
- **Use BSL-2 practices within Class II BSC for:**
  1) Aliquoting and/or diluting specimens other than blood and urine;
  2) Inoculation of bacterial or mycological culture mediaPerforming diagnostic tests that don't involve propagation of viral agents in-vitro or in-vivo;
  3) Nucleic acid extraction procedures involving untreated specimens;
  4) Preparation and chemical or heat-fixing of smears for microscopic analysis.
- **Use BSL 3 facility with BSL-3 work practices with shower out facilities (BSL3+) for:**
  1) Highly pathogenic avian influenza (HPAI) A culture, (e.g. H5N1, with specific BSL3+ conditions) which include controlled access double door entry with changing room and shower-out facilities.
  2) Laboratories working with live H5N1 influenza virus or other HPAI cultures must also be certified by the USDA Restricted Animal Pathogen Program. **Therefore, respiratory virus cultures of patients suspected of having H5N1 infection must not be offered or performed in laboratories without BSL3+ facilities.**

*See BMBL for explanation of BSL practices/facilities.

It is recommended that testing be performed by PCR assays only.

For more information, visit http://www.cdc.gov/flu/professionals/diagnosis/ or call the CDC public response hotline in English: (800) 232-2522 Español: (800) 232-0233; TTY: (800) 243-7889 Clinician Hotline English: (877) 554-4625.

For information specific to Michigan response, call MDCH BOE at 517-335-8165 -or- Virology Section Manager at 517-335-8099 -or- Dr. Jeff Massey with MDCH/BOL at 517-335-8850.

Resources:

http://www.michigan.gov/mdch
http://www.cdc.gov/
http://www.cdc.gov/flu/
http://www.cdc.gov/flu/avian/
http://www.who.int/csr/disease/avian_influenza/en/

Contacts:

1. Manager, Virology/Immunology Section
   Bureau of Laboratories
   Ph: 517-335-8099

2. Dr. Jeffery Massey, P.H., Manager
   Molecular Section
   Bureau of Laboratories
   Ph: 517-335-8850
   e-mail : Masseyj@michigan.gov

3. Patricia A. Clark, MPH, Unit Manager
   Viral Isolation and Serology
   Bureau of Laboratories
   Ph: 517-335-8102
   e-mail: Clarkp@michigan.gov

4. Dr. Patricia A. Somsel, P.H., Director
   Division of Infectious Diseases
   Bureau of Laboratories
   Ph: 517-335-8064
   e-mail : Somselp@michigan.gov

Attachment 5:
Pandemic Influenza Public Information Materials

Public Information Materials Link

Health Alert Network: ***Document Library/State of Michigan Agencies/Department of Community Health/Response Plans/Public Information on Influenza.*** Includes information on the following:

…Public Information…
…Information Resources on Influenza…
…Cover Your Cough-Chinese, Spanish, Tagalog, Vietnamese
…Cover Your Cough-English
…Influenza Vaccine Myths and Facts- Spanish…
…Influenza Vaccine Myths and Facts-English…
…Hand washing……
…Flu-Mist Q and A……
…Influenza-Information for the Public
…Recommendations for Businesses……
…Recommendations for Childcare…
…Recommendations for HCFs and EMS
…Recommendations for Long-Term Care Facilities
…Recommendations for Schools……
…Recommendations for Home
…Model Scripts for Phone Banks……
…Patient Respiratory Infections Poster……
…Patient Respiratory Infections Poster……

For Community and Public Settings like Schools and Child Care Facilities

view larger

Size	English	Spanish	Vietnamese	Chinese	Tagalog
FLYER (8½" x 11") POSTER (11" x 17")	http://www.cdc.gov/flu/protect/covercough.htm				

CDC Influenza Prevention Materials for Specific Groups	
Schools, Childcare Providers, Parents	http://www.cdc.gov/flu/school/

Health Care Professionals	http://www.cdc.gov/flu/professionals/
Laboratories	http://www.cdc.gov/flu/professionals/labdiagnosis.htm
Health Care Facilities	http://www.cdc.gov/flu/professionals/infectioncontrol/
Provider Education Materials	http://www.cdc.gov/flu/professionals/flugallery/posters_providers.htm#pready
Patient Education Materials	http://www.cdc.gov/flu/professionals/flugallery/index.htm http://www.cdc.gov/flu/protect/covercough.htm
Businesses and the Workplace	http://www.cdc.gov/flu/workplace/
Colleges and Universities	http://www.cdc.gov/flu/school/college.htm
People with Chronic Conditions	http://www.cdc.gov/flu/protect/hiv-flu.htm
Legal Professionals	http://www.phppo.cdc.gov/od/phlp/Influenza.asp
Children Under 6 months Old	http://www.cdc.gov/flu/protect/infantcare.htm

CDC Gallery of Translated Influenza Materials	
Spanish	http://www.cdc.gov/flu/espanol/index.htm
French	http://www.cdc.gov/flu/fr/index.htm
Chinese	http://www.cdc.gov/flu/languages.htm#chinesetraditional
Japanese	http://www.cdc.gov/flu/languages.htm#ja
Korean	http://www.cdc.gov/flu/languages.htm#ko
Vietnamese	http://www.cdc.gov/flu/languages.htm#vi
Thai	http://www.cdc.gov/flu/languages.htm#th
Tagalog	http://www.cdc.gov/flu/languages.htm#tgl
Russian	http://www.cdc.gov/flu/languages.htm#ru
Romanian	http://www.cdc.gov/flu/languages.htm#rom

Attachment 6: Suggested Priority Groups for Vaccination and Use of Antivirals

(Ed. Note: A National Workgroup is planned for June 2005 and recommendations on Priority Groups for pandemic response activities will follow. These will be incorporated into the next version of the MDCH Pandemic Influenza Plan)

Attachment 7: Public Health Order: Samples

1. Regarding the 2004-2005 influenza vaccine shortage; effective 14 Oct. 2004; rescinded 9 Dec. 2004

STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH

**ORDER FINDING IMMINENT DANGER
TO THE PUBLIC HEALTH,
TO AVOID THE IMMINENT DANGER
AND
TO CONTROL INFLUENZA VACCINATIONS**

This Order is made pursuant to Section 2251 of the Public Health Code, Public Act 368 of 1978, being MCL 333.2251.

Matters of concern to the health of Michigan citizens having been brought to the attention of the Director of the Department of Community Health, and the Director having made the following determinations:

1) Chiron Corporation has notified the Centers for Disease Control and Prevention that none of its influenza vaccine will be available for distribution in the United States for the 2004-05 influenza season.

2) This development will reduce by approximately one half the expected supply of influenza vaccine available in the United States for the 2004-05 influenza season.

3) This shortage of influenza vaccine poses an imminent danger to certain persons in high risk categories. "High risk categories" means:

   a) All children aged 6-23 months;

   b) Adults aged 65 years and older;

   c) Persons aged 2-64 years with underlying chronic medical conditions;

   d) All women who will be pregnant during the influenza season;

   e) Residents of nursing homes and long-term care facilities;

1

f) Children aged 6 months to 18 years on chronic aspirin therapy;

g) Health care workers involved in direct patient care; and

h) Out-of-home caregivers and household contacts of children aged < 6 months.

4) Exposure to influenza in persons in these high risk categories can result in death or serious illness.

5) To protect the public health, and prevent and control the spread of influenza in persons in high risk categories, it is essential that all health care providers in Michigan limit influenza vaccinations to persons in high risk categories.

6) Health care providers shall refrain from vaccinating healthy individuals not at high risk of serious illness or death.

7) This situation constitutes an imminent danger to the health or lives of residents of the state of Michigan; and

8) This determination is based on information provided by Dean Sienko, M.D., Acting Chief Medical Executive of the Michigan Department of Community Health.

Now, Therefore, It Is Hereby Ordered that:

A) All health care providers in Michigan shall limit influenza vaccinations to persons in high risk categories.

B) All health care providers and others that possess influenza vaccine shall cooperate with local health officers to assess vaccine supply and coordinate vaccination of persons in high risk categories.

2. Draft sample public health order for modification/use if a pandemic is imminent.

STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH

ORDER FINDING IMMINENT DANGER TO THE PUBLIC HEALTH, TO AVOID THE IMMINENT DANGER, AND TO CONTROL ADMINISTRATION OF PANDEMIC INFLUENZA VACCINE AND CERTAIN ANTIVIRAL MEDICATIONS

This order is made pursuant to Section 2251 of the Public Health Code, Public Act 368 of 1978, being MCL 333.2251.

Matters of concern to the health of Michigan citizens having been brought to the attention of the Director of the Department of Community Health, and the Director having made the following determinations:

1) The XXX strain of influenza is spreading rapidly among humans in many parts of the world, causing the World Health Organization to declare an influenza pandemic.
2) Nearly all Michigan's residents are expected to be vulnerable to this virus.
3) Disease caused by this virus can be severe, long-lasting, and may lead to death.
4) Large numbers of Michigan residents will require medical care if this virus becomes widespread in Michigan.
5) Supplies of pandemic influenza vaccine are sufficient to immunize only a small percentage of Michigan's population.
6) Public and private sector supplies of the antiviral drugs amantadine, rimantadine, oseltamivir, and zanamivir, which are thought to be effective against this virus, are sufficient to treat or prevent disease in only a small percentage of Michigan's population.
7) To assure the best possible care for Michigan residents in the likely event that pandemic influenza spreads in Michigan, health care workers and public health personnel should be protected against this virus, so they can effectively care for Michigan residents and prevent the spread of disease.
8) This situation constitutes an imminent danger to the health or lives of residents of the state of Michigan.
9) This determination is based on information provided by the Chief Medical Executive of the MDCH.

Now, Therefore, It Is Hereby Ordered That:

A. All health care providers in Michigan shall limit influenza vaccination with pandemic influenza vaccine, or administration of amantadine, rimantadine, oseltamivir, or zanamivir, to the following persons (depending on available supplies, LHDs or health care facilities may further limit administration if necessary):

i. health care providers and their support staff, emergency responders, laboratory workers in hospital or clinical settings, or pharmacists,
ii. public health personnel involved with pandemic influenza response,
iii. spouses, domestic partners, or children of people in the above 2 categories,
iv. Other critical personnel as determined by the Director of the MDCH, in consultation with the Chief Medical Executive.
v. Amantadine may continue to be given to persons in order to treat Parkinson's disease, or other diseases or conditions against which amantadine is effective.

B. All health care providers and others that possess pandemic influenza vaccine, amantadine, rimantadine, oseltamivir, or zanamivir shall cooperate with local health officers to assess supply of these substances and coordinate prophylaxis and treatment of persons in the above categories.
C. Local health officers shall provide this order to health care providers in their jurisdiction, and this order shall be prominently posted in locations where influenza prophylaxis and treatment are administered.
D. This order shall take effect immediately.

Pursuant to Section 2261 of the Public Health Code, Public Act 368 of 1978, being MCL 333.2261, a person who violates this order is guilty of a misdemeanor punishable by imprisonment for not more than six months, or a fine of not more than $200.00, or both.

Dated: XXXXXXXX

Signed

Director, MDCH

Attachment 8: Large Scale Mass Vaccination/Dispensing Clinic Functions

If a decision is made by public health officials and/or political leaders to offer vaccine/antivirals/antibiotics/antitoxin to all persons within a jurisdiction (local, regional or statewide plans for large-scale vaccination/dispensing clinics will be implemented at the local and regional level. This attachment is primarily meant to guide the planning and management of clinics that serve up to a thousand patients per day. Very large clinics (those serving several thousand patients per day) should be implemented using existing SNS plans.

Clinic functions are outlined here to assist local and regional public health response teams in their mass clinic planning. Key capabilities of such clinics include:

- Administering vaccine/ antiviral/ antibiotic/antitoxin to public health and health care response teams, emergency and first responder personnel.
- Provide a standardized method for documenting a vaccine “take” (positive reaction) if administering smallpox vaccine.
- Use of a standardized method for follow-up of adverse reactions.
- Referring patients with adverse reactions following vaccination or administration of antivirals/antibiotics or antitoxin.
- The ability of repeating the vaccination clinic to provide the vaccine/antiviral/antibiotic or antitoxin to newly exposed patients and patients whose first vaccine did not achieve a ”take” in the use of smallpox

Clinic Operations and Management

- Each public health preparedness jurisdiction will identify potential clinic locations, which may be the same as SNS dispensing sites. At least one location should be identified per county.
- Each jurisdiction will estimate the number of persons requiring vaccine/antivirals/antibiotics/antitoxins under several different scenarios The maximum number is the population of the jurisdiction.
- A plan should be developed for creating signage and getting large amounts of forms rapidly copied with a 24/7 availability.
- If transmission is limited, focused vaccination/dispensing campaigns, isolation of cases, intensive surveillance, and contact tracing may be implemented to control and prevent disease. The area vaccinated or provided antivirals/antibiotics or antitoxin will be determined and modified by the State Health Officer, in consultation with the State Chief Medical Executive, the State Epidemiologist, and the LHD(s) involved, depending on:
    - Size of outbreak.
    - Personnel resources.
    - Effectiveness of other outbreak control measures.
    - Vaccine availability.

- Priority during mass vaccination/dispensing will be given to essential personnel, especially physicians, nurses, emergency responders, and public health personnel. Specific determinations of priority groups to be prophylaxed will depend on available supplies and defined high risk groups
- Vaccine/antiviral/antibiotic/antitoxin distribution will be coordinated by the Regional SNS Technical Advisor or the Regional Vaccine Coordinator.
- Vaccine transport: TQI can provide refrigerated trucks and drivers, and is used in Michigan by one vaccine manufacturer. TQI's phone number is 231-972-4164; customer service is 800-255-2421. Refrigerated trucks or trailers may also be rented from several other companies.
- Administration/dispensing of vaccine/antivirals/antibiotics/antitoxin will be conducted according to CDC guidelines.
- Patients that develop adverse reactions to any of the above after leaving the clinic should seek treatment through their regular health care provider. LHDs will also provide names of health care clinics that have agreed to provide this service for those who do not have a primary health care provider. Pre-identification of these clinics will ease the burden upon patients seeking such services at emergency care centers.
- Providers can consult the CDC's 24-hour Clinician Information Line (877-554-4625) for information on vaccines such as smallpox. If it is not available, MDCH will develop an on-call referral network.

Clinic Layout and Flow

An efficient clinic needs to be properly designed to allow patients to flow through it quickly and easily. The following provides some practical ways to do that:

- Clinic should have clearly marked entrance and exit points
- Security staff should be posted at both locations to maintain an orderly flow
- Traffic flow will be controlled and follow a logical path from the entry to the exit point
- Clients should progress through the clinic in a straight line. Ideally the entrance is at one end of the room, the exit is at the other end, and stations 1-6 are lined up in between.
- Colored tape on the floor can be used to keep clients on track.
- Place highly visible signage at each table within each station (about eight feet high if possible, like the lighted numbers on supermarket checkout aisles).
- Have flow monitors, whose job is to guide clients to the proper station. (e.g., "There's no waiting at vaccination Table 3." "Let me help you to this table over here.")
- Make liberal use of rope barriers to help lines progress in an orderly fashion.
- Allow for additional staff, supplies, and space to quickly set up extra tables depending on where client flow is backing up. (e.g., "They're lined up out the door, add another registration table.")
- Stagger start times of the education sessions to allow a more continuous flow of people into and out of the education station.
- For maximum throughput don't allow the client to sit down except in the Education area. This can be done by abbreviating paperwork and education (or giving

education/materials to people while they stand in line) and vaccinating people while they are standing. Some chairs will still be needed at the vaccination/dispensing area and post-vaccination station to accommodate people who need a rest. Clinic Flow Monitors would assist persons who have difficulty standing for long periods, and would help move handicapped or elderly people along in the lines.

Refer to **Attachment 9** for a clinic flow diagram and to **Attachment 10** for a supply and equipment checklist.

- Normal procedure is for the patient to proceed through stations 1 through 6. The six stations are:
  - Triage (Station 1)
  - Registration (Station 2)
  - Education (Station 3)
  - Screening (Station 4)
  - Vaccination/Dispensing (Station 5)
  - Exit Review (Station 6)

- Additional areas include:
  - Special Needs (Station 7)
  - Sick Assessment/First Aid (Station 8)
  - Medical Evaluation (Station 9)
  - Storage (Station 10)
  - Data Entry (Station 11)
  - Command Center (Station 12)
  - Mental Health (Station 13)
  - Staff Break Room (Station 14)
  - Staff Nap Room (Station 15)

Vaccination/Dispensing Process
These guidelines will be revised if necessary as information on LHD experiences with large vaccination/dispensing clinics becomes available.

The following describes the operation of a large mass vaccination/dispensing clinic (1000 clients or less). Regardless of the clinic size and location the functions and routing procedures remain essentially the same. Staffing needs will vary depending on clinic size; and in a small clinic situation some roles can be consolidated or eliminated. For clinics larger than 1000 people refer to **SNS Plan**.

Triage station:

- The purpose of the triage station is to assess clients before they enter the clinic and determine whether to admit clients to the clinic or deny them entry. Clients will be triaged into four categories:.
  - Contacts
  - Ill,
  - Special needs, and
  - All others (not ill, not contact),
- This function will be most important in the event that a clinic is open to the general public or is serving large numbers of people.
- Ideally, triage would occur indoors, in a separate room from the main clinic, but space considerations may require triage to occur outdoors. For small clinics these functions may be merged with the registration station.
- Triage personnel will be at entrance to clinic, backed up by security.
- Triage personnel direct clients into clinic, away from clinic, or toward sick clinic (see station 7 below) as necessary on basis of simple criteria (e.g., occupation, obviously ill). The triage nurse(s) may move up and down line to triage people as quickly as possible.
- Clients having special needs (handicapped, elderly, non-English speaking, etc.) should be directed to the special needs area.
- Supporting materials for triage function:
  - Signage for entrance and throughout the waiting area
  - Maps/lists of alternate vaccination clinics or care facilities.
  - Megaphones to make announcements to groups.
  - Quick screening guide for possible disease symptoms
  - Cards, hand stamps, etc., to identify where patient should go.

Registration station:

- Registrar records basic information on each person (at least the following: name [first, middle, and last], date of birth, address, phone number, occupation).
- Necessary paperwork is provided to the client. Depending on the amount of paperwork, it may be filled out at registration, in the education station (3), or at the screening station, (4) paperwork may include:
  - Consent Forms ,
  - Health history form/checklist, including contraindications for vaccine/antivirals, antibiotics/antitoxin

  - Record of immunization,
  - Vaccine Information Statement (VIS),
  - Fact sheet.
- Computers for data entry directly into MCIR would be useful, but are not required. Scan forms should be used in the absence of computers (**see Attachment 12**). They can be filled out by hand and scanned to input the data into MCIR.
- Supporting materials for registration function (see also **Attachment 10**) Clinic Supply and Equipment
  - Signage for registration,
  - Highlighters,
  - Ballpoint pens,
  - Decision tree for vaccine contraindications,
  - Extra forms.

Education station:

- Note that if media coverage surrounding the event has been informative and widespread, the education station could be streamlined or even eliminated. This could drastically increase the rate of client flow through the clinic.
- Give a basic orientation to the vaccination clinic purpose and flow.
- Educator (or video) provides information on the disease, exposure criteria, vaccines/antivirals/antibiotics/antitoxin, contraindications, why we're vaccinating/providing antivirals/antibiotics/antitoxin, what to expect at today's clinic, how vaccination is done if providing vaccine, that more information is coming on how to follow-up. Larger clinics should stagger start times for separate education sessions.
- Inform public that vaccine/antivirals/antibiotics/antitoxin may not be enough to prevent the development of illness and that there is a need to watch for illness symptoms. Describe symptoms and what to do if they occur.
- Separate sessions for contacts and for specific languages as needed.
- Answer questions.
- If it is impractical to cover all paperwork in the registration (2) or screening (4) sections, clients may be given a place to sit in this station while they fill out paperwork. They must not be rushed. Paperwork may include:
  - Consent forms.
  - Health history form/checklist, including contraindications for vaccine/antivirals/antibiotics/antitoxin.
  - Record of immunization.
  - Vaccine Information Statement (VIS).
  - Fact sheet.
- Supporting materials for education station
  - Forms--English and other language versions as possible (at Special Needs).
  - Vaccine Registration/Consent Form (includes demographic information, consent, and vaccine administration information).
  - Record of Immunization.
  - Vaccine Information Statement (VIS).

- Frequently Asked Questions (FAQ) about disease.
- Fact sheets.
- Appropriate special patient information sheet.
- Megaphones to make announcements to groups.
- Pens, clipboards.
- Large signage with information describing major counseling points.
  - An exposure is.
  - Disease information.
  - Once forms are complete, get in line/wait to be called for Nurse Screener Station.
- Information packet (including vaccine registration/consent form, immunization record, VIS, fact sheet, appropriate special patient information sheets) for each educator.

Screening station:

- The purpose of this area is to:
  - Ensure that all forms are competed appropriately prior to entering the vaccination area.
  - Ensure that all questions of the client are answered
  - Refer all clients to the Medical Evaluation area who have unanswered questions
- Station should have privacy barriers if possible so that each patient can speak one-on-one with a nurse and discuss possible medical contraindications, exposure status, and informed consent if required.
- The health screener uses information collected at registration, health history forms filled out by patient, and a verbal interview to determine whether patient will receive vaccine/antivirals/antibiotics/antitoxin,
- Large clinics may need to use non-nurses for screening, with several trained nurses on hand to field questions as needed.

Vaccination/Dispensing station:

- The purpose of the vaccination station is to administer vaccine/dispense antivirals/antibiotics/antitoxin.
- If antivirals are being distributed, one or more stations separate from the immunization station will be required. A nurse or healthcare provider or pharmacist would instruct the patient on how/when to take the drug and provide a supply with printed information about it, including dosage, timing, side effects, and how/whether to replenish the drug when it runs out. Doses of antivirals should be counted out ahead of time.
- Vaccinator administers vaccine. Depending on specific circumstances, the vaccinator or a vaccine assistant may cover the vaccination site, and direct the client to the Exit Review station. For large clinics privacy barriers may be eliminated in order to move people through more quickly, but at least one private area will be required (e.g., person wearing a shirt that requires removal for access to the shoulder).

- The vaccinator ahead of time for greater efficiency may fill syringes. Nurses or healthcare providers may continually rotate between vaccinating and filling syringes; if possible, each vaccinator will fill his/her own syringes.
- Runner(s) will be available for replenishing supplies (see station 8).
- Supporting materials for vaccination station
  - Standing Medical Orders
  - Emergency Medical Procedures
  - Vaccine supplies: gloves, table protectors, sharps containers, needles, alcohol wipes, etc.
  - Highlighting pens.
  - Ballpoint pens.
  - Tables and chairs.

Exit review station:

- The purpose of this station is to:
  - Collect completed registration/consent forms
  - Provide final instructions to clients.
    - How to report adverse reactions and where to go if they occur.
    - Where to go for revaccination if applicable.
- Completed registration/consent forms are collected.
- After finishing at the exit review station, the person leaves the clinic past the exit monitor and/or exit security. Signs should clearly mark the exit.

Special Needs Station

- The purpose of this area is to provide an area away from routine clinic flow for all clinic activities to take place for clients with special needs including physical/mobility impairment, emotional/mental impairment or need for translators

Sick clinic/first aid station:

- The purpose of this station is to:
  - Provide a medical assessment of persons identified as possibly sick by the triage station (or at other stations if missed or not apparent at triage), and to separate ill persons from the rest of the clinic so as to limit disease transmission and facilitate clinic flow. It should be located in a completely separate room from the main immunization clinic if possible and provide the following:
  - Respond to medical emergencies, including minor reactions and anaphylactic shock in relation to vaccination
  - Respond to serious medical emergencies that are incidental and unrelated to vaccination
- Have the ability to arrange transport of patients by ambulance to a hospital for care.
- May have vaccine/antivirals/antibiotics/antitoxin available for treatment/prophylaxis, if indicated.

- Sick clinic/first aid supplies (see also **Attachment 10 Clinic Supplies and Equipment**):
  - Personal Protective Equipment (PPE): gowns, gloves, eye protection, N-95 (or better) respirators.
  - Standard supplies including clipboard, paper, pens, tables chairs, cots, etc.
  - Supplies for managing illness until medic support arrives such as IV fluids, thermometer, blood pressure cuff, stethoscope, epinephrine, diphenhydramine, oxygen, defibrillator.
  - Screening tools and information:
    (1) Information on indications for quarantine and quarantine procedures.
    (2) Current working case definitions for specific disease

Medical Evaluation Station

- The purpose of this area is to ensure that all clients have an opportunity to have additional questions due to their specific health related issues or concern about contraindications answered about precautions and side effects.

Storage station:

- The purpose of this area is to:
  - Maintain security of the vaccine/antivirals/antibiotics/antitoxin
  - Maintain the cold chain of the vaccine (See appropriate appendix for more information on vaccine storage and transport
  - Prepare, label and distribute vaccine/antivirals/antibiotics/antitoxin
  - Manage supplies and equipment
  - Distribute supplies and equipment
- The station should have a temperature-monitored refrigerator (with alarm, if possible) will be needed for vaccine storage. A 10-dose vial of vaccine is 1 1/8" x 1 1/8" x 2 ½" in its box. A large 21 cubic foot commercial reach-in refrigerator with internal dimensions of 24" x 26.7" x 57" and 4 shelves will therefore hold a maximum of 7500 vials (i.e., 75,000 doses) if at least 2" of space is left open on all sides of the refrigerator and between shelves in order to allow cool air to circulate. A refrigerator of more conventional size may hold one half to one third that amount. The refrigerator should be set up well in advance of vaccine arrival to allow it to reach proper temperature before the vaccine is placed in it.
- Supplies of other consumables (e.g., antivirals, respirators, syringes, PPE) may also be stored at this station.
- A runner will bring supplies from the storage station to other stations as requested.
- Large clinics will require a dedicated inventory coordinator. Small clinics might merge this function with the runner's duties.
- May require security personnel.

Data Entry Station

- The purpose of this station is to:
  - Secure all data entry forms
  - Directly enter data into MCIR or

- Scan all data forms into MCIR

Command Center Station

- The purpose of this station is to:
  - Provide overall coordination of the clinic
- The Incident Commander, Logistics Chief and PIO are stationed here

Break area: Private area for clinic staff to take a few minutes to relax and get something to eat or drink. This area should include tables and chairs, and perhaps a refrigerator for box lunches/beverages/snacks. A sink for hand washing is desirable. Small clinics may not need this station.

The following provides approximate staffing needs for a clinic providing vaccination/dispensing for 1000 people in four hours. Modifications of these numbers should be made in relation to the size of the clinic:

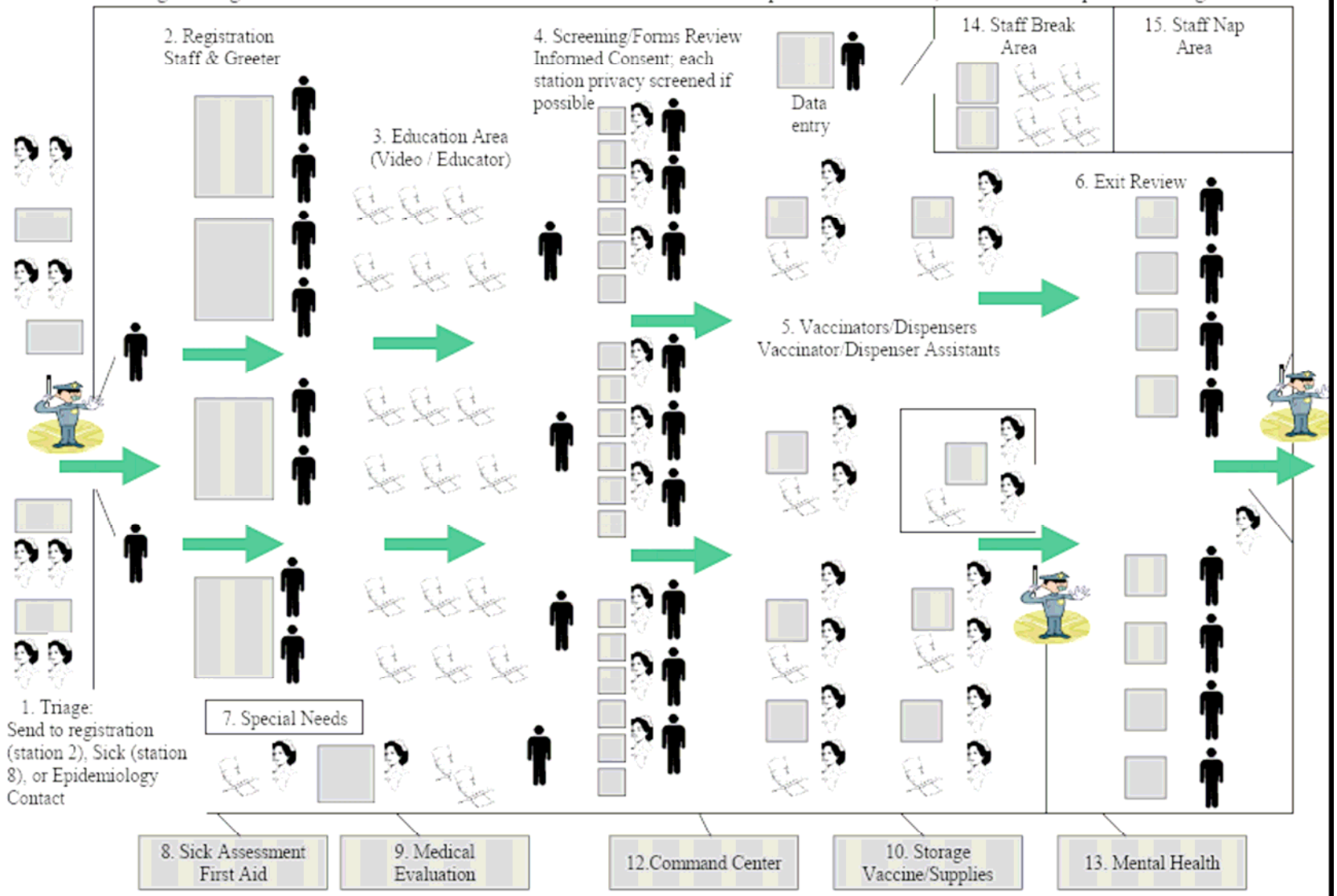
Numbers of staff will be modified based on LHD input and the results of clinic exercises.

- Triage nurse (8)
- Registration staff (8)
- Educator (6)
- Health Screeners (Forms Review) (18)
- Vaccinators/Dispensers (8)
- Vaccinator/Dispenser Assistants (8)
- Exit Review (8)
- Special Needs Leader (1)
- Translators (1/language/shift)
- Clinic Director (Incident Manager) (1)
- Vaccination/Dispensing Manager (Operations Chief) (1)
- Logistics Chief
- Data Manager (1)
- Security Manager (1)
- Human Resource Manager (1)
- Function Leader ((5) (Triage, Registration, Education, Vaccination/Dispensing and Exit Review)
- Medical Screeners (4)
- Physician Evaluator (1)
- Emergency Medical Technician (2)
- Data entry (6)
- Clinic Flow monitor (28)
- Epidemiologic Contact Staff (12)
- Exit Review Staff (8)
- Mental Health Counselors (4)
- Pharmacist (2)
- Security Personnel(8)
- Supply Runner/Clerk (8)
- Traffic Flow Personnel (8)

Attachment 9: Sample

Mass Vaccination/Dispensing Clinic Flow Diagram

This diagram is generalized and will need modification for use in varied shapes/sizes of rooms, and number of persons being seen.



Attachment 10: Clinic Supply & Equipment Checklist

Equipment Needs:		
Computers	Printers	Power strips & cables
Refrigerator:	Thermometer for fridge	Water bottles for fridge
TVs	VCRs/DVD players	Fax machine
Copier		

General Supplies		
Tables	Chairs	Portable toilets
Pens	Pencils	Colored markers
Clear tape	Stapler & staples	Paper clips
Paper	Sticky notes	Envelopes
Paper towels	Tissues	Trash bags
Garbage containers	Food & drink	ID badges for staff
Scissors	Standard first aid kit	Scale for child weighing
Copies of relevant emergency plans (e.g., AH, CD Annex, Appropriate Appendix, SNS plan)		
Immunization records	VISs	Disease specific fact sheets
Colored tape (for arrows on floor)	Signage for each station	Rope barriers
Duct tape	Informational signs (mainly triage, education, and post- vaccination)	
Cleaning supplies	Paper towels	Education videos/DVDs (+ spares)
File boxes	Folders	Clipboards

Vaccine Administration Supplies		
Cooler	Thermometer for cooler	Cold packs
Vaccine (pandemic or regular)	Needles; 22-25g, 1”, 1.5”, few 2” or bifurcated	Syringes
Sharps containers	Adhesive bandages	Exam gloves
Cotton balls	Antiseptic (70% EtOH or other)	Alcohol swabs
Paper tape	Privacy screens	Cots
Anti-bacterial gels (handwashing)	Gauze	Bleach solution (1:10) in sprayers

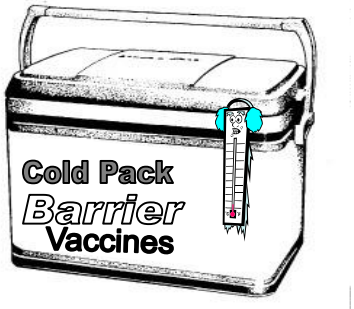
Communication Supplies		
Cellphones	Telephones (land line)	Lists of important phone #s
2-way radios (800 MHz or other)	Phone cables	Internet access (optional)

Emergency Kit		
Standing orders for emergencies	Inhalants (ammonia or similar)	Alcohol swabs
2 Epi Pens, or 2 ampules epinephrine 1:1000 SQ plus needles (tuberculin syringes with 5/8" needles)		
2 ampules diphenhydramine (Benadryl) 50 mg IM with 3cc syringes & 22g-25g 1" and 1.5" needles		
Tongue depressors	Stethoscope	Tourniquet
Blood pressure gauge	Child & adult cuffs for BP gauge	2 thermometers
Adult airway	Pediatric airway	Asthma inhalers
Adult pocket mask (1-way valve)	Child pocket mask (1-way valve)	AED (defibrillator)
Aspirin	Tylenol (acetaminophen)	Insulin
Gurney	Blankets	Pillows
Oxygen tank with tubing	IV electrolytes with tubing	Flashlights & batteries
Biohazard bags	Sharps container	Emesis basin

ATTACHMENT 11:
PACKING, TRANSPORT, AND STORAGE OF INACTIVATED INFLUENZA VACCINE

- Influenza vaccine should always be transported in an insulated cooler with ice/cold packs (large quantities will require a refrigerated truck/trailer).

- Use crumpled newspaper, bubble wrap, or corrugated cardboard between vaccine and cold packs as a barrier to prevent vaccine from contacting the cold pack and freezing



- Place a thermometer in the cooler to monitor temperature (35°– 45°F or 2°–8°C)

STORAGE & HANDLING OF INFLUENZA VACCINE

Shipping Requirements

Should be delivered in the shortest possible time. Should not be exposed to excessive temperatures.

Condition on Arrival*

Should not have been **frozen**. Refrigerate on arrival.

Storage Requirements

Refrigerate immediately on arrival. Store at 2° – 8°C (35° – 46°F). **Do not freeze**.

Shelf Life

Formulated for use within current influenza season.

Instructions for Reconstitution or Use

Shake vial vigorously before withdrawing each dose.

Shelf Life after Reconstitution, or Opening

Until outdated, if not contaminated.

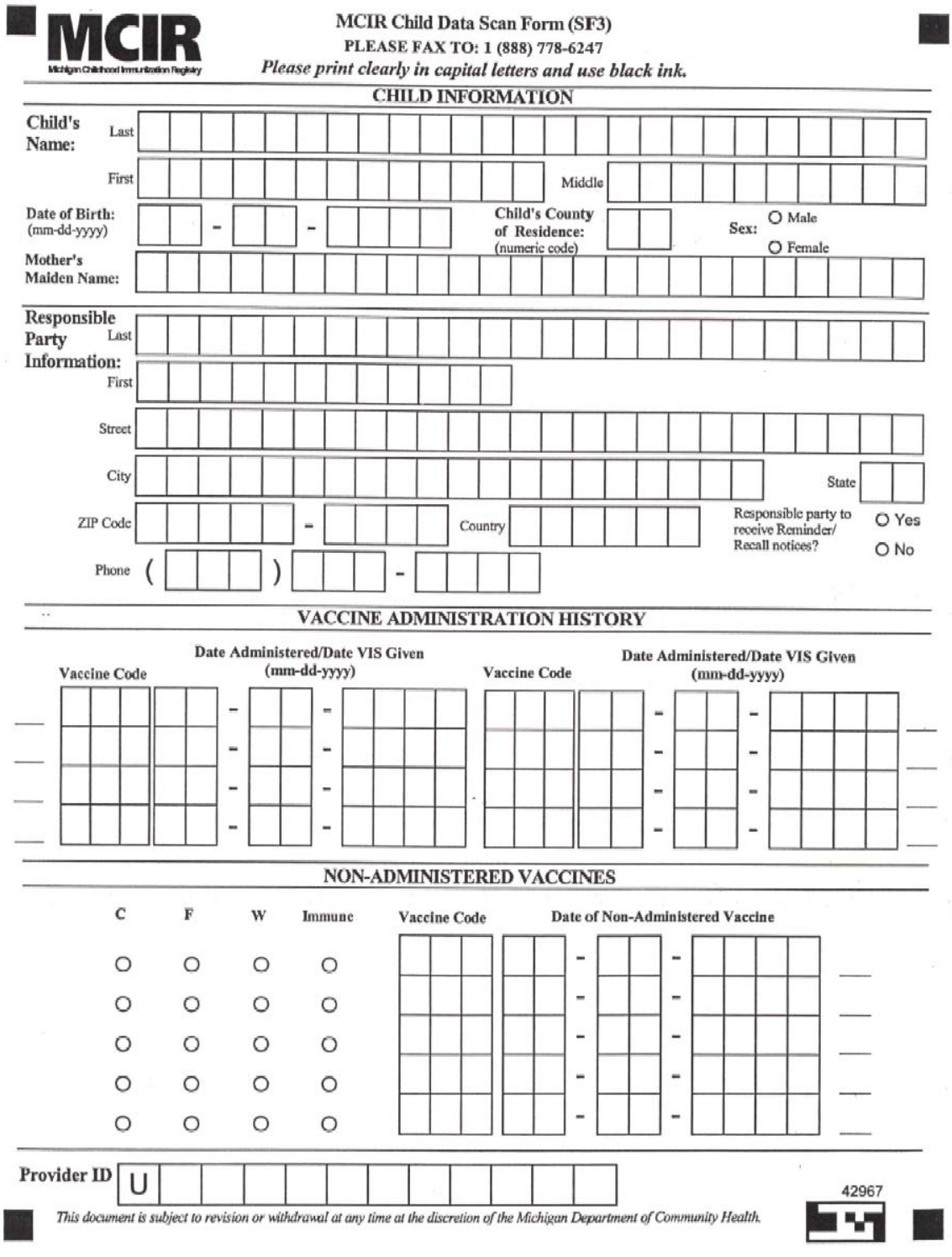
Special Instructions

Rotate stock so that the shortest dated vaccine is used first.

---

* If you have questions about the condition of the material at the time of delivery, you should:
1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the MDCH Regional Immunization Field Representative (see Attachment H6 for contact info).

Attachment 12: Sample scan forms for MCIR data entry



MCIR
Michigan Childhood Immunization Registry

MCIR Child Data Scan Form (SF3)
PLEASE FAX TO: 1 (888) 778-6247
Please print clearly in capital letters and use black ink.

CHILD INFORMATION

Child's Name: Last
First
Middle
Date of Birth: (mm-dd-yyyy)
Child's County of Residence: (numeric code)
Sex: O Male O Female
Mother's Maiden Name:

Responsible Party Information: Last
First
Street
City
State
ZIP Code
Country
Responsible party to receive Reminder/ Recall notices? O Yes O No
Phone ( )

VACCINE ADMINISTRATION HISTORY

Vaccine Code
Date Administered/Date VIS Given (mm-dd-yyyy)
Vaccine Code
Date Administered/Date VIS Given (mm-dd-yyyy)

NON-ADMINISTERED VACCINES

C F W Immune
Vaccine Code
Date of Non-Administered Vaccine

Provider ID U

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42967

MCIR
Michigan Childhood Immunization Registry

MCIR Immunization Encounter Scan Form (SF1)

PLEASE FAX TO: 1 (888) 778-6247

Please print clearly in capital letters and use black ink.

CHILD INFORMATION

Enter identifying information for child in the spaces provided.

Sex: ○ Male ○ Female

Date of Birth: (MM-DD-YYYY) - -

Child's Name: Last First

Child's County of Residence: (numeric code)

Responsible party last name:

VACCINES ADMINISTERED

Enter date of immunization encounter (mm-dd-yyyy). Select vaccine administered by darkening circle in front of vaccine name. Enter manufacturer and lot number information as appropriate. Enter initials of person administering vaccine.

Encounter date/ Date VIS Given: (MM-DD-YYYY) - -

Vaccine Eligibility Code for VFC
Medicaid ○ Uninsured ○
Under Insured ○ Native American ○

DTP ○ **DTaP** ○ **DT** ○ **Td** ○	Manufacturer:	Lot Number:
DTP/Hib ○ **DTaP/Hib** ○	Manufacturer:	Lot Number:
○ **Hib** ○ **Hib-HepB** ○ **Hib-PRP-D** ○ **Hib-PRP-T** ○ **Hib-HbOC** ○ **Hib-PRP-OMP**	Manufacturer:	Lot Number:
OPV ○ **IPV** ○	Manufacturer:	Lot Number:
○ **MMR**	Manufacturer:	Lot Number:
○ **Hepatitis B**	Manufacturer:	Lot Number:
○ **Varicella**	Manufacturer:	Lot Number:
○ **Immune**	Date of Immunity: - -	
○ **PCV 7**	Manufacturer:	Lot Number:
Other Vaccine Code:	Manufacturer:	Lot Number:

Provider ID U

Initials:

16635

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Attachment 13: Flu Vaccine and Anti-Viral Medications (DRAFT)

VACCINE DOSES ADMINISTERED REPORTING FORM

Provider Name _____ **Medicaid #** _____

Phone Number _____ **Reporting Period from** ___/___/___ **to** ___/___/___

	Age in Years								Total Doses Administered	Total Wasted Doses
Flu Vaccine	<1	1-2	3-10	11-20	21-30	31-40	41-50	51 or Older		

Anti-Viral #1	<1	1-2	3-10	11-20	21-30	31-40	41-50	51 or Older	Total Doses Administered	Total Wasted Doses

Anti-Viral #2	<1	1-2	3-10	11-20	21-30	31-40	41-50	51 or Older	Total Doses Administered	Total Wasted Doses

Flu Vaccine and Anti-Viral Medication Inventory Report Form REPORT MONTH: _____

County	Health Department	Reported By	Telephone	Date

NUMBER OF DOSES IN INVENTORY							TOTAL DOSES ADMINISTERED AND DISTRIBUTED		
Vaccine and Anti-Viral Medications ①	Lot # ②	Beginning Balance ③	Rec'd from MDCH or Other Counties ④	Returned to MDCH or Other Counties ⑤	Lost, Wasted, Spoiled ⑥	Ending Balance = 3 + 4 minus 5 + 6 + 10 ⑦	Administered by LHD ⑧	Distributed to Other Providers ⑨	Total of Columns 8 + 9 ⑩
Flu Vaccine									
Anti-Viral #1									
Anti-Viral #2									

Attachment 14: Quick reference chart for FDA-approved antiviral influenza drugs

Rev. 7/02	Amantadine (Symmetrel®)	Rimantadine (Flumadine®)	Zanamivir (Relenza®)	Oseltamivir (Tamiflu®)
Mode of action	M2 ion channel inhibitor; acts against influenza A only		Neuraminidase inhibitor; acts against influenza A and B	
Mode of administration	Oral		Inhaled lactose powder via Diskhaler®	Oral
Healthy adult dosage (treatment)	100 mg twice/day until 24-48h after symptoms end	100 mg twice/day, 7 days	Age 7+ years: 5 mg twice/day, 5 days	75 mg twice/day, 5 days
Healthy child dosage (treatment)	Age 1 to 9 yrs. only: 2 to 4 mg/lb/day, max 150mg/day	Age < 10 yrs: 5 mg/kg/day, max 150 mg/day		≤15 kg: 30 mg twice/day >15-23 kg: 45 mg 2x/day >23-40 kg: 60 mg 2x/day
Healthy adult dosage (prophylaxis)	100 to 200 mg/day	100 mg twice/day	Not FDA approved	75 mg/day
Healthy child dosage (prophylaxis)	Age 1 to 9 only: 4.4 to 8.8 mg/kg/day, max 150mg/day	Age < 10: 5 mg/kg/day, max 150 mg/day		Not FDA approved in children under 13
Side effects	CNS effects e.g., inability to concentrate, insomnia; requires dose calibration to patient's renal status	CNS effects, but milder than amantadine	Rare bronchospasm, e.g., with asthmatics	Occasional nausea or vomiting, mitigated by food
Teratogenicity in pregnant women	Teratogenic in rodents at high doses, more study needed; use discouraged unless maternal benefit justifies fetal risk		Not adequately studied in pregnant women; use discouraged unless maternal benefit justifies fetal risk	
Drug resistance	Develops quickly, especially when used for treatment (arose in ~ 30% of patients treated)		Develops slowly, resistant viruses do not affect clinical course	
Treatment effectiveness	Illness resolves 1 to 2 days sooner if given < 2 days after symptom onset, but see drug resistance above		Illness resolves 1 to 2 days sooner if given < 2 days after symptom onset	
Prophylaxis effectiveness	Yes; about 80%			
Proph. approval by FDA	Yes		No	Yes
Storage	Room temperature (15° to 30° C)			
Cost	Inexpensive (generics available); ~ 15% cost of others		~ $48 / 5 day treatment	~ $60 / 5 day treatment
Manufacturer	Multiple		GlaxoSmithKline	Roche

20 July 2004

Attachment 14 Notes:

- Supplies of all 4 drugs are limited and stockpiling will be required to assure significant quantities of antivirals during a pandemic.
- This is a quick reference and is not comprehensive. See references for more detailed information.
- Adamantanes are not preferred for treatment due to rapid selection for resistance. They may be useful for prophylaxis, however.

Sources:

CDC and control of influenza. *MMWR* 51(RR03); 1-31. A table of dosage info is contained in the document: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5103a1.htm#tab4

Monto, AS. The role of antivirals in the control of influenza. *Vaccine* 2003, 21; 1796–1800.

U.S. Food and Drug Administration (has drug labels online). http://www.fda.gov/cder/drug/antivirals/influenza/default.htm

World Health Organization. WHO Guidelines on the Use of Vaccines and Antivirals during Influenza Pandemics (2004). Available at: http://www.who.int/csr/resources/publications/influenza/en/11_29_01_A.pdf

HHS Federal Pandemic Influenza Response and Preparedness Plan, Annex 7. http://www.hhs.gov/nvpo/pandemicplan/annex7.antiviral.pdf

Attachment 15: Bibliography for Vaccine and Antiviral Module

2004. WHO. WHO Guidelines on the Use of Vaccines and Antivirals during Influenza Pandemics:
http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_RMD_2004_8/en/

2001. CDC. Vaccine Management: Recommendations for Handling and Storage of Selected Biologicals:
http://www.cdc.gov/nip/publications/vac_mgt_book.pdf

Recommendations of the Advisory Committee on Immunization Practices (ACIP) (continually updated):
http://www.cdc.gov/nip/publications/ACIP-list.htm

FDA flu drugs page, including package inserts and other info:
http://www.fda.gov/cder/drug/antivirals/influenza/default.htm

FDA talk paper on flu antiviral prescribing:
http://www.fda.gov/bbs/topics/ANSWERS/ANS00995.html

FDA Office of Generic Drugs:
http://www.fda.gov/cder/ogd/index.htm

FDA electronic Orange Book:
http://www.fda.gov/cder/ob/docs/querytn.htm

1997. Monto AS. The role of antivirals in the control of influenza. *Vaccine* 21:1796–1800.

2003. MDCH SNS Dispensing Site Plan Template. Available in the Document Library of michiganhan.org: Document Library : Documents : state of Michigan Agencies : Department of Community Health : OPHP : SNS : Dispensing Site Plan Template

Attachment 16:
Sample TIV Standing Orders (age 19 and over)
for the Administration of Inactivated Trivalent Influenza Vaccine (TIV) To Persons Aged 19 Years and Older

Risk Assessment: Person is eligible for vaccination if meets 1 or more of the following criteria:

□ Yes □ No 50 years and older
□ Yes □ No Pregnant woman, in 2nd or 3rd trimester during the flu season (Nov-Mar)
□ Yes □ No Health care worker
□ Yes □ No Resident of long term care facility
□ Yes □ No Person with any of the following chronic illnesses: (circle)
- ❖ chronic pulmonary disease including asthma, bronchitis, COPD,
- ❖ emphysema
- ❖ chronic cardiovascular disease including CHF, cardiomyopathy
- ❖ chronic metabolic disorders including diabetes mellitus
- ❖ renal dysfunction
- ❖ hemoglobinopathies including sickle cell disease
- ❖ immunosuppression including: HIV infection; immunosuppression caused by medications

□ Yes □ No Household member/caregiver of a high risk person, including those of children 0-23 mo.
□ Yes □ No Person wishing to have immunity

Contraindications: Vaccine NOT recommended if the person has 1 or more of the following:

□ Yes □ No Severe allergy to eggs.

_____

□ Yes □ No Previous severe reaction to influenza vaccine (list physician's guidelines).

_____

□ Yes □ No Moderate or severe acute illness (list physician's guidelines). If this is the only contraindication, vaccine may be given after illness has resolved.

_____

□ Yes □ No Previous influenza immunization this flu season (list date/type given).

_____

If YES to any of the above contraindications, DO NOT GIVE INFLUENZA VACCINE

Precaution: History of Guillain-Barré syndrome (list physician's guidelines).

_____

Immunization Order: Criteria met and person consents to vaccination:

□ Yes Give inactivated influenza vaccine 0.5 ml IM in deltoid.

□ No Did not meet criteria and vaccine not given.

□ No Refuses vaccination.

If **YES**, administer vaccine per _____ (physician's name) standing orders, document in _____, and give the current Vaccine Information Statement (VIS) and Adult Immunization Record Card.

Additional:

Instructions:_____

_____

_____

_____

_____

_____

Person completing form: _____

Date: _____